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QUALIFICATION STANDARDS FOR PERSONNEL RESPONSIBLE FOR HAZARDOUS--ETC(U)
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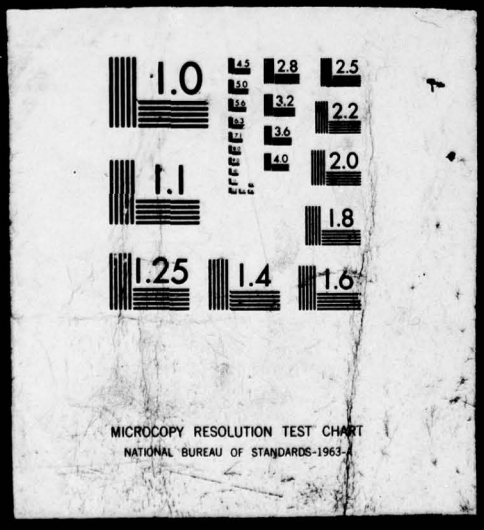

Report No. CG-D-1-77 VOLUME I

QUALIFICATION STANDARDS FOR PERSONNEL RESPONSIBLE FOR HAZARDOUS OR NOXIOUS CHEMICALS IN BULK

APPENDIX J:

FJA TASK STATEMENTS OF PERSONNEL HANDLING AMBIENT PRESSURE-AMBIENT TEMPERATURE HAZARDOUS CHEMICAL CARGO ON A TANKSHIP

BY:

PAUL A. MARTINO

MAY 1976

Prepared for

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD
Office of Research and Development
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16. Abstract

The report is an analysis of personnel tasks on vessel systems transporting bulk hazardous and noxious chemicals. The recommendations relate to qualifications and training of chemical handling personnel aboard tankships and tank barges for two cargo containment systems (i.e., ambient-pressure-ambient temperature, and high pressure-ambient temperature). Topics discussed are initial personnel certification, renewal of certification, time frame for renewal and retraining. One of the results of this study is a data bank of tasks performed by marine personnel handling bulk chemical cargo (bound separately as Appendices J and K). In addition, an educational curriculum guideline was developed that may be useful to anyone interested in designing a training program for marine chemical handling personnel.

17. Key Words Hazardous Materials Transportation by Water; Human Factors; Functional Job Analysis; Tank Ship; Tank Barge; Chemical Tankerman, Educational Curriculum; Personnel Training and Qualifications	18. Distribution Statement

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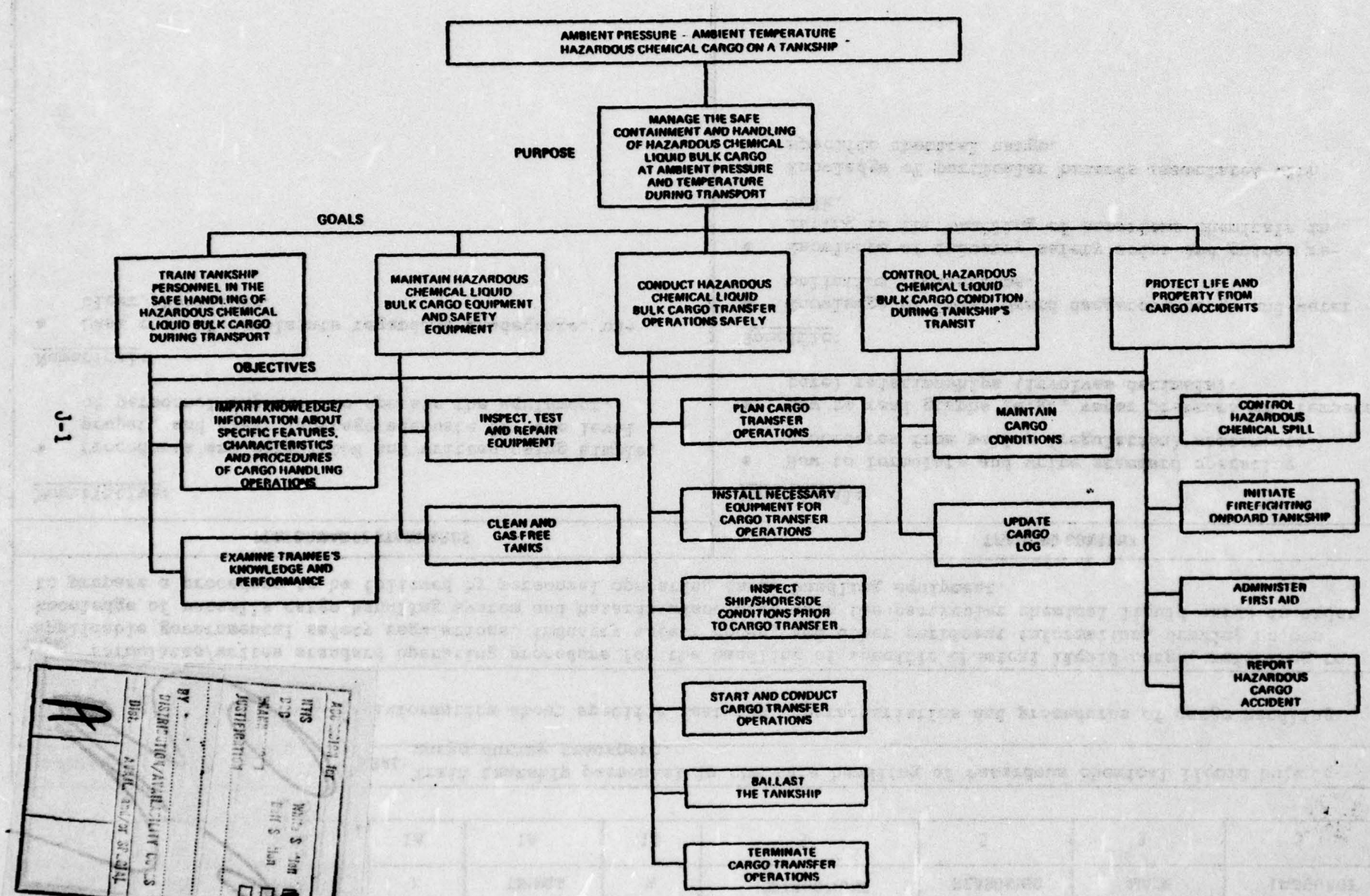

FUNCTIONAL PURPOSE, GOALS AND OBJECTIVES FOR AMBIENT TEMPERATURE-AMBIENT PRESSURE CONTAINMENT SYSTEM

TASK CODE: I.A.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5A	80	10	1A	1A	10	5	5	3	5

TASK CODE: I.A.1	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics and procedures of cargo handling during transport.

TASK: Formulates/writes standard operating procedure for the handling of specific chemical liquid cargo, referring to applicable governmental safety regulations, industry safety codes, and other pertinent information, drawing on own knowledge of vessel's cargo handling system and hazards associated with the particular chemical liquid cargo in order to prepare a procedure to be followed by personnel operating cargo handling equipment.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Procedures are formulated and written using simple, proper, and clear language adequate for the level of personnel expected to operate the equipment. Numerical: • Less than XX complaints regarding inadequate, unclear procedures.	Functional: • How to formulate and write standard operating procedures from policy (regulation) statements. • How to read graphs (e.g., vapor pressure vs. temperature) relationships (involves decimals). Specific: • Knowledge of Coast Guard dangerous cargo and water pollution regulations. • Knowledge of industry safety codes and guides relating to the handling of hazardous chemicals in bulk. • Knowledge of particular hazards associated with specific chemical cargo.

TASK CODE:	I.A.2								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5B	80	1A	10	1A	10	5	5	3	5

TASK CODE:	I.A.2	GOAL:	Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Formulates/writes learning objectives, training activities (fire drills, first aid simulations, wearing personnel protection equipment) lesson plans and evaluation methods for a particular lesson based on assigned training content and present knowledge, attitudes, and skills of trainees, in order to teach cargo handling personnel safety aspects involved in the operation of cargo handling equipment, firefighting and safety equipment, personnel protection equipment, first aid equipment procedures, and hazards associated with chemical liquid bulk cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Plans and arrangements are thought out clearly, comprehensively, and are relevant and consistent with training needs. Numerical: • Less than X% complaints regarding inadequate/insufficient information/explanation. • Less than X% complaints regarding relevance of information.	Functional: • How to formulate and finalize training plans stressing learning objectives and evaluations. • Knowledge of learning activities which are effective for teaching the kinds of training content needed. Specific: • Knowledge of local format for developing training plans. • Knowledge of desired training content (operation of cargo handling equipment, use of firefighting and safety equipment, use of personnel protection equipment, use of first-aid equipment and procedures, and hazards associated with chemical liquid bulk cargo). • Knowledge of present skill levels and attitudes of trainees. • Knowledge of cargo handling equipment, including gages, charts with decimal readings.

TASK CODE: I.A.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	40	4A	55	1A	5	4	4	3	4

TASK CODE: I.A.3	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Gives information and ideas based upon personal experience and training, to define and clarify duties of cargo handling personnel in order to recommend content and methods of training to instructors.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Presentation is clear, accurate, comprehensive. • Worker is open, perceptive, and respects and acknowledges other viewpoints. Numerical: • X% of listeners report consultation had advanced their understanding and was useful. • X% of ideas and information is reflected in instructions to personnel.	Functional: • How to describe and relate experience in relation to problem to a specific audience. Specific: • Knowledge of duties, responsibilities of cargo handling personnel, including interpretation of decimal readings on gages. • Knowledge of scope and focus of the specific training program (i.e., program for cargo handling personnel). • Knowledge of hazards associated with chemical liquid bulk cargo. • Knowledge of behavior in connection with chemical cargo handling, e.g., danger of toxic vapors, need for adequate oxygen and wearing of appropriate protective gear.

TASK CODE:	I.A.4

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	35	4B	60	1A	5	5	5	3	4

TASK CODE: I.A.4	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Shows/demonstrates/presents informal lecture to chemical cargo handling personnel, leads discussion on key concepts, based on specific lesson plan, adjusting approaches to responses of trainees, in order to increase particular knowledge and skill of trainees.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Presentation content is clear, orderly, and accurate. • Sets climate in which trainees feel free to ask questions and answers questions clearly and to the point. • Teaching method holds attention of trainees. Numerical: • In review of lesson plan and content, no more than X% key points in explanation are omitted or distorted. • No more than X% of trainees complain that explanations were unclear.	Functional: • How to present material in lecture and for discussion. • How to involve trainees in discussion and elicit questions. Specific: • Knowledge of skill levels, capabilities, interests of trainees. • Knowledge of specific content related to cargo and ballast handling equipment and operations, safety and firefighting equipment, personnel protection equipment, first aid equipment and procedures. • Knowledge of potential hazards involved in handling the specific chemical liquid cargo.

TASK CODE:	I.A.5

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	55	4B	35	1A	10	5	5	3	4

TASK CODE: I.A.5	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Provides on-the-job training (OJT) throughout voyage, following standard operating procedure and using discretion within guidelines of union contract terms, company policy, regulations and personnel's interest in developing skills above minimum.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Sensitive to personnel's work-related needs, interests. • Clear and accurate in demonstrations, explanations. • Sensible in selecting time, place for on-the-job training so as not to disrupt operations. Numerical: • Informal talks are held at prescribed intervals with all personnel, to check their needs. • All departures from standards of personnel performance are noted. • No casualty occurs because of inadequate personnel skills/knowledge.	Functional: • Knowledge of ship systems, functions, and personnel responsibilities. • On-the-job training, hands-on demonstration techniques. • Documentation available to assist in task learning performance. Specific: • Specific cargo handling systems, functions, operations, procedures on vessel. • Specific personnel responsibilities, capabilities, experience. • Specific performance standards for tasks. • Union contract terms. • Company policy. • Documentation available aboard vessel to assist in task learning and performance.

TASK CODE:	I.A.6

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	65	2	20	1A	15	3	3	3	4

TASK CODE: I.A.6	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Impart knowledge/information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Orders, posts, and/or maintains in specified location(s) on vessel standard sources of information (cargo information cards, equipment diagrams, standing orders, operations and safety manuals), following vessel, company and government regulations about required material, using discretion about methods and timing of checks and maintenance, in order to ensure that the information is available when needed.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Standard information is posted, stowed, updated, and replaced promptly and accurately. • Availability and condition of information sources is checked thoroughly on a regular basis. Numerical: • All prescribed information is in designated location or known status whenever needed. • Changes are made within X hr of notification or, if critical, immediately upon notification. • Replacements are ordered as soon as known to be required and in place within X hr of receipt.	Functional: • How to obtain and distribute standard shipboard information sources. • Functions for which different sources are used. • Procedures for ordering, updating, and replacing documents. • Information may contain decimals. Specific: • Information sources required, used aboard vessel. • Locations for various types of information. • Vessel procedures for information acquisition and access control. • Particular training aids furnished aboard vessel.

TASK CODE:	I.A.7

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	40	4B	40	1A	20	5	5	3	4

TASK CODE: I.A.7	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE:

Impart knowledge/acquire information about specific features, characteristics, and procedures of cargo handling operations during transport.

TASK: Walks personnel through vessel, explains layout and special equipment and demonstrates operations particular to specific job, using operations and safety manuals, check lists, and other available aids, and discretion concerning how detailed orientation/indoctrination should be, in order to orient personnel to vessel and procedures.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Indoctrination to vessel is conducted clearly, thoroughly, and efficiently. Numerical: • X% of personnel state they feel satisfied with indoctrination. • All prescribed resource material is identified.	Functional: • Knowledge of vessel systems, functions, operations, and personnel responsibilities. • Teaching and demonstration skills. • Importance of thorough indoctrination to vessel. Specific: • Specific vessel cargo handling systems, functions, operations, and procedures. • Specific personnel responsibilities, knowledge, and experience. • Documentation available aboard vessel to assist in task performance.

TASK CODE:	I.B.1

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	45	3A	50	1A	5	3	3	3	3

TASK CODE: I.B.1	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Examine/evaluate/observe trainee's knowledge and performance on site.

TASK: Asks/reads test questions to cargo handling trainee, explains meaning of items, encourages trainee, in order to examine trainee's knowledge of the operation of cargo handling equipment, the use of safety and firefighting equipment, personnel protection equipment, and first aid equipment and procedures.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Questions, explanations are clear, concise and thorough. • Test is administered uniformly and fairly. Numerical: • Less than X% complaints regarding unclear explanations provided, or unfair treatment.	Functional: • How to communicate in language trainee will understand. Specific: • Familiarity with questionnaire. • Knowledge of information required (i.e., operation of cargo handling equipment, the use of firefighting and safety equipment, personnel protection equipment, first aid equipment and procedures).

TASK CODE:	I.B.2

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	30	5	65	1A	5	4	4	3	4

TASK CODE: I.B.2	GOAL: Train tankship personnel in the safe handling of hazardous chemical liquid bulk cargo during transport.

OBJECTIVE: Examine/evaluate/observe trainee's knowledge and performance on site.

TASK: Interviews/evaluates new personnel using own judgment within guidelines of company policy, union contract terms, regulations, and accepted practice, in order to find out their needs for orientation, specific training, and performance monitoring, relevant to vessel operating requirements.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Personnel needs for orientation, training, and supervision are determined promptly, thoroughly, and accurately. • Effective communication is established. Numerical: • Determination is made X hr/days before (after) unberthing. • Specific knowledge and skills of all personnel are evaluated.	Functional: • Responsibilities prescribed for personnel categories and general content of tasks that go with those responsibilities. • Informal interview procedure. Specific: • Vessel and equipment design and operating procedures. • Safety features and procedures. • Company policy. • Location and procedures for maintaining logs and other records. • Content of manuals and other information sources used onboard vessel.

TASK CODE: II.A.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5B	75	1A	5	1A	20	5	4	3	4

TASK CODE: II.A.1	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:
Inspect, test and repair equipment.

TASK: Formulates inspection and maintenance schedules and check lists of cargo handling and safety equipment, drawing on own knowledge of vessel's equipment, availability of personnel and review of records in order to ensure cargo and safety equipment are properly maintained.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Plan adequately reflects inspection and maintenance needs. • Inspections are carefully planned to check equipment regularly and frequently. • Appearance and operating condition of vessel and equipment are well maintained. **Numerical:** • Maintenance needs are always known. • Maintenance records are always up-to-date. • Inspections are performed every X days. • The schedule is reviewed and revised as required X hours after each check.	**Functional:** • Routine inspection and maintenance requirements for cargo handling equipment. • Special maintenance that can be performed at sea. • Types and effects of material degradation and equipment failure (general knowledge). • Safety regulations pertinent to inspection and maintenance. **Specific:** • (All of functional content applied to specific vessel.)

TASK CODE:	II.A.2

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5B	50	5	45	1A	5	5	5	3	4

TASK CODE: II.A.2	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:

Inspect, test and repair equipment.

TASK: Assigns personnel to perform inspection and maintenance of cargo handling and containment equipment and materials, describing equipment and materials, criticality of defects, types of work required, availability of tools and materials, and using discretion within the limits of authority, union contract terms, company policy and regulations, in order to carry out inspection and maintenance schedule.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Assigns sufficient number of personnel. • Communicates task details clearly. • Ensures that workload is reasonable for personnel. Numerical: • In all cases there is sufficient number of people to perform inspection and maintenance.	Functional: • Routine inspection and maintenance requirements for cargo handling equipment. • Special maintenance that can be performed at sea. • Types and effects of material degradation and equipment failure (general knowledge). • Personnel responsibilities for inspection and maintenance. • Safety regulations pertinent to inspection and maintenance. • How to assign sufficient number of persons to different types of inspection and maintenance. Specific: • (All of functional content applied to specific vessel.) • Specific personnel capabilities.

TASK CODE:	II.A.3								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	30	4A	60	1A	10	4	4	3	4

TASK CODE:	II.A.3	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Reports/describes faulty operation of cargo transfer subsystem equipment and safety equipment (e.g., cargo and ballast pumps, firefighting equipment, personnel protective equipment, etc.), directly to equipment manufacturer or via the company representative (e.g., Port Engineer), using telephone, ship's radio, mail system, etc., following standard operating procedure, in order to arrange for a technical representative to visit vessel and restore equipment to its proper operation according to manufacturer's specifications.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Conveys information accurately and completely. • Presentation is clear and concise. Numerical: • Over a period of time, less than X% complaints because reports are vague, inaccurate, misleading or incomplete.	Functional: • How to explain technical information to manufacturer's representative or company's Port Engineer. • How to read and understand equipment manufacturer's specifications and instructions. Specific: • Knowledge of equipment manufacturer's and company's Port Engineer. • Knowledge of vessel's faulty equipment. • Knowledge of vessel's cargo handling subsystem equipment operation.

TASK CODE:	II.A.4

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	2	40	1A	10	4	4	3	4

TASK CODE:	II.A.4	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Replaces/repairs defective parts to equipment of cargo transfer subsystems (e.g., liquid level gages, valves, pressure relief devices, flanges, gaskets, cargo hose, etc.), calling upon engineering department for assistance, following standard operating procedure and manufacturer's instructions, in order to restore equipment to its proper operation according to manufacturer's specifications.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Repairs or replaces defective parts accurately and within specified tolerances. • Communicates effectively with personnel. <u>Numerical</u>: • In <u>all</u> cases where safe containment of the hazardous chemical cargo is dependent upon the defective part, repairs are made to the equipment to specification. • Less than X% complaints that communication is unclear or ineffective.	<u>Functional</u>: • How to read and follow standard operating procedure and equipment manufacturer's instructions. • How to repair/replace defective parts to equipment aboard vessels. • General knowledge of operating principles of cargo handling subsystem equipment. <u>Specific</u>: • Knowledge of vessel's cargo handling subsystem equipment operation (pressure relief devices, liquid level gages, cargo valves, cargo hoses, flanges, gaskets, etc.). • Knowledge of specific equipment's manufacturer's instructions and standard operating procedures.

TASK CODE:	II.A.5								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	55	1A	5	2A	40	3	3	1	4

TASK CODE:	II.A.5	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Tests fire detection and alarm system's light/temperature/smoke sensing devices and indicators, and audio/visual alarms in order to ascertain that fire detection and alarm system is operating within the limits specified in the vessel/technical manual.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Effectively conducts test procedures at prescribed intervals or whenever equipment is malfunctioning. • Accurately determines off-limit conditions or faulty operations. • Precisely isolates any faults. **Numerical:** • In 100% of the cases, all faults or off-limit conditions within the system are detected and isolated.	**Functional:** • Understands the principles and operations of the fire detection and alarm system (sensing devices, indicators, audio/visual alarms). • How to conduct test procedures for system performance and/or fault isolation. **Specific:** • Knowledge of ship's fire detection and alarm system.

TASK CODE: II.A.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	55	1A	5	2A	40	3	3	3	4

TASK CODE: II.A.6 **GOAL:** Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:
Inspect, test and repair equipment.

TASK: Tests the cargo monitoring/sensing devices, indicators and audio/visual alarms in order to ascertain that the cargo monitoring and alarms system is operating within the limits specified in the vessel operating manual.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Conducts test procedures precisely at prescribed intervals or whenever equipment is malfunctioning. • Accurately determines off-limit conditions or faulty operations. • Precisely isolates any faults. Numerical: • In 100% of the cases, all faults or off-limit conditions within the system are detected and isolated.	Functional: • Understands the principles and operations of the cargo monitoring and alarm system (sensing devices, indicators, alarms). • How to conduct test procedures for system calibration and/or fault isolation. Specific: • Knowledge of ship's cargo monitoring and alarm system.

TASK CODE: II.A.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	60	1A	5	1A	35	1	1	1	3

TASK CODE: II.A.7	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Checks visually respiratory protection equipment according to check list, in order to determine if enough devices are available aboard the vessel when transporting certain toxic chemical cargoes.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • In all cases of shipping certain toxic chemical cargoes, sufficient respiratory equipment is aboard.	Functional: • How to conduct inventory of equipment. • How to add whole numbers. Specific: • Knowledge of specific respiratory protection equipment. • Knowledge of number of devices required. • Knowledge of specific chemical cargo's hazardous properties (i.e., toxicity, respiratory irritation, etc.).

TASK CODE:	II.A.8								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	1A	35	2	2	1	3

TASK CODE: II.A.8	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Inspect, test and repair equipment.	
TASK: Checks visually medical first aid equipment (such as oxygen resuscitation equipment and antidotes), according to a check list, in order to determine if equipment is aboard the vessel, and if antidotes are suitable for the specific chemical cargoes being transported by vessel.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • In all cases, required antidotes are available for the specific chemical cargo being transported. • In all cases, appropriate medical first aid equipment (such as oxygen resuscitation equipment) is aboard the vessel when certain chemical cargoes are being transported.	Functional: • How to conduct inventory of equipment. • How to conduct an inventory of equipment and antidotes using a check list. Specific: • Knowledge of specific medical first aid equipment (oxygen resuscitation equipment, chemical antidotes). • Knowledge of properties and hazards of the specific chemical cargo. • Knowledge of medical instructions specifying antidote usage.

TASK CODE:	II.A.9

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	1A	35	2	2	1	3

TASK CODE:	II.A.9	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Checks visually emergency first aid stretchers used to hoist a person up from a space according to a check list, in order to ensure that they are aboard and stowed in an easily accessible space.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • No more than X% complaints that first aid stretchers are stowed in an inaccessible space.	Functional: • How to account for equipment. • How to determine proper stowage areas (accessibility). Specific: • Knowledge of specific first aid equipment (personnel stretchers). • Knowledge of vessel spaces used for personnel entry.

TASK CODE:	II.A.10

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	1A	35	2	2	1	3

TASK CODE: II.A.10	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Checks visually personnel safety equipment which permits personnel to enter a toxic gas-filled compartment to perform work for a specified amount of time, according to a check list, in order to ensure sufficient quantity is aboard the vessel and stored in easily accessible places.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. **Numerical:** • In all cases where personnel must work in a toxic gaseous atmosphere, sufficient quantity of safety equipment is aboard the vessel. • No more than X% complaints, safety equipment is not stored in easily accessible places.	Functional: • How to take inventory of equipment. • How to determine proper stowage areas (accessibility). Specific: • Knowledge of purpose, use and maintenance of personnel protective equipment. • Knowledge of specific safety equipment (self-contained air breathing apparatus, protective clothing, boots, gloves, tight-fitting goggles, steel cored rescue line with belt and explosive proof lamp). • Knowledge of vessel spaces used for personnel entry and require protection from toxic vapors.

TASK CODE: II.A.11									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	75	1A	5	1A	20	3	3	3	3

TASK CODE: II.A.11	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:
Inspect, test and repair equipment.

TASK: Checks visually flammable, combustible, and toxic vapor portable detection instruments, according to check list, as to need and quantity, noting that instruments are calibrated for testing the specific chemical cargoes carried, in order to ensure sufficient and suitable detection equipment is aboard the vessel.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • In all cases where the specific chemical cargo requires combustible, flammable and toxic vapor detection instruments, a sufficient quantity is aboard. • In all cases, detection instruments are calibrated for the specific chemical cargo being shipped.	Functional: • How to account for equipment. • How to determine detection instruments are properly calibrated. Specific: • Knowledge of required quantity of detection instruments. • Knowledge of specific flammable, combustible and toxic vapor portable detection instruments. • Knowledge of specific chemical cargo's hazardous properties (toxicity and flammability). • Knowledge of calibration data (graphs, tables, etc.).

TASK CODE:	II.A.12

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	55	1A	5	40	2A	3	3	1	3

TASK CODE:	II.A.12	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Inspects visually fire extinguishing equipment according to check list, for quantity of charge as indicated by gage, extinguisher shell strength by observing deterioration and/or corrosion of shell, reads inspection tags and/or log records to determine date of last inspection and tests, notifies by phone recognized company to conduct tests and inspections in accordance with standard operating procedure, in order to ensure equipment is in proper condition.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection accurately and thoroughly. • Conducts inspections during prescribed time periods. Numerical: • Completes all inspections at specified frequency and in accordance with standard operating procedures.	Functional: • How to inspect fire extinguishing equipment, read dials. • How to read and follow standard operating procedures. Specific: • How to determine quantity of charge, extinguisher shell strength. • How to detect deterioration, corrosion, etc., of extinguisher. • Knowledge of specific standard operating procedures.

TASK CODE: II.A.13									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	65	1A	5	1A	30	2	2	1	3

TASK CODE: II.A.13	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Inspects visually and by touch material condition of fresh air breathing apparatus and self-contained breathing apparatus, according to check list and using own knowledge and judgment, in order to ensure rubber parts are not deteriorated from exposure to corrosive liquids or vapors.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • In all cases, detects deteriorated material condition when it exists.	Functional: • How to inspect personnel protective equipment. • How to detect poor material condition. Specific: • Knowledge of specific shipboard personnel protection equipment (e.g., fresh air breathing apparatus and self-contained breathing apparatus).

TASK CODE:	II.A.14

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	75	1A	5	1A	20	2	2	3	3

TASK CODE: II.A.14	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Inspects visually condition of cargo tanks (observes amount of corrosive deterioration) designated for the carriage of a specific chemical cargo, according to check list, using own judgment and knowledge in order to determine material condition of cargo tanks.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. • Follows prescribed precautionary measures. Numerical: • Personal entry into cargo tanks is not permitted in all cases where a tank previously contained a chemical cargo which is a health hazard to personnel. • Inspects external condition of all cargo tanks according to check list.	Functional: • How to examine cargo tanks. • How to detect poor material condition. Specific: • Knowledge of check list. • Knowledge of inspection procedures of cargo tanks carrying a specific chemical cargo (e.g., chemical cargo that is a health hazard). • Knowledge of specific cargo tanks. • Knowledge of hazardous properties of a specific chemical cargo (i.e., toxicity).

TASK CODE: II.A.15									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	80	1A	5	1A	15	3	3	1	3

TASK CODE: II.A.15	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE:	Inspect, test and repair equipment.
TASK:	Inspects visually external and internal condition of cargo valves, according to check list, and using own judgment and knowledge in order to detect deterioration and ensure proper operating condition of cargo valves.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • Cargo valve operation is adequate in all cases of cargo transfer.	Functional: • General knowledge of operating principles of cargo valves and internal parts (body, bonnet, packing glands, disks, gates, seats, guides, stem operating gear, position indicators). • How to examine external and internal parts of cargo valve. • How to detect poor material condition. Specific: • Knowledge of specific cargo valve and parts.

TASK CODE: II.A.16									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	50	1A	5	1A	45	1	1	1	3

TASK CODE: II.A.16	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Inspects visually, removes, cleans flame arrestors, according to check list, using own knowledge and available tools in order to ensure the flame arrestor grid passages are clear of scale, soot, ice or other debris.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly. • Thoroughly cleans flame arrestor grid. **Numerical:** • Less than XX complaints that flame arrestors are not properly inspected and/or cleaned.	**Functional:** • How to examine flame arrestors. • How to clean flame arrestor grid passages. **Specific:** • Knowledge of location of vessel's flame arrestors. • Knowledge and location of tools needed to clean flame arrestors.

TASK CODE: II.A.17									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	1A	35	2	2	1	3

TASK CODE: II.A.17	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:
Inspect, test and repair equipment.

TASK: Inspects visually external condition of sea chests, sea valves, sea strainers and bilge injection valves, according to check list, using own judgment and knowledge, in order to determine if valves should be opened for internal examination during the vessel's drydocking period.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. • Conducts inspections during prescribed time periods. Numerical: • In less than X% of cases opening valves for internal inspection were inappropriate. • In all cases an external inspection of valves was conducted in the prescribed time period.	Functional: • General knowledge of operating principles of sea chests, sea valves, sea strainers and bilge injection valves aboard vessels. • How to make external examination of valves. • How to detect poor material condition. • How to judge internal condition of valves from external examination. Specific: • Knowledge of specific inspection procedures. • Knowledge of specific sea chests, sea valves, sea strainers and bilge injection valves.

TASK CODE:	II.A.18								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	1A	35	2	2	1	3

TASK CODE: II.A.18	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Inspect, test and repair equipment.	
TASK: Inspects visually (and by striking parts with hand) brackets and fastenings supporting internal piping, heating coils, valve rods, monitor tubes, etc., according to check list and using own knowledge and judgment in order to ensure they are secure and free from vibration, thereby preventing a source of ignition from sparks caused by striking metal parts.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • Detects loosely secured metal parts in all cases where they exist.	Functional: • General knowledge of cargo transfer subsystem layout aboard tank ships. Specific: • Knowledge of specific cargo tanks. • Knowledge of specific brackets and fastenings supporting internal piping, heating coils, valve rods, etc.

TASK CODE:	II.A.19

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	50	1A	5	1A	45	2	2	1	3

TASK CODE:	II.A.19	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: **Inspect, test and repair equipment.**

TASK: **Inspects/strikes with hand or hammer pressure vacuum relief valves listening for clicking of moving parts according to check list and using own knowledge and experience in order to determine that working parts are freely movable and passages are clear of polymer build up caused by cargo polymerization (self-reaction), scale, snow or ice.**

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • **Completes inspection thoroughly.** **Numerical:** • **Pressure vacuum relief valve operates satisfactorily all the time.**	Functional: • How to inspect pressure vacuum relief valves. • How to determine if working parts are operable. Specific: • Knowledge of specific valves and working parts. • Knowledge of properties of a specific chemical cargo (i.e., a chemical cargo that polymerizes under certain conditions).

TASK CODE:	II.A.20

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	75	1A	5	1A	20	3	3	1	3

TASK CODE: II.A.20	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Inspects visually cargo hose (looks for kinks, bulges, soft spots, gouges, cuts, slashes, etc.), to be used in pumping liquid cargo at a particular pressure, according to check list, using own judgment and knowledge, in order to ensure cargo leakage does not occur through body of hose during cargo transfer.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • Cargo leakage through body of hose does not occur in all cases involving cargo transfer.	Functional: • How to inspect cargo hose. • How to detect poor material condition of cargo hose (i.e., kinks, bulges, soft spots, gouges, cuts, slashes, etc.). Specific: • Knowledge of check list. • Knowledge of manufacturer's recommended working pressure and maximum working pressure for specific cargo hose.

TASK CODE: II.A.21									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	70	1A	5	1A	25	2	2	2	3

TASK CODE: II.A.21	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Inspect, test and repair equipment.	
TASK: Inspects visually electric or battery-operated power tools according to check list (such as hand torches, hand lamps, portable electric equipment, etc., which are used in restricted areas), and inspects flexible cables (wandering leads) for such equipment in order to ensure that equipment is of the approved type, according to pertinent safety information, and that cables do not pass through hazardous areas.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Inspects equipment thoroughly. **Numerical:** • Inspects all power tools expected to be used or actually used in restricted areas.	**Functional:** • Knowledge of safety restrictions/requirements for power tools used in restricted areas. • General knowledge of hazards of using power tools in restricted areas. • Recognition/understanding of authorized, approved markings or certification for power tools. **Specific:** • Knowledge of type and location of power tools used on particular ship. • Knowledge of specific ship/company/terminal safety regulations relevant to use of power tools.

TASK CODE:	II.A.22								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	75	1A	5	1A	20	2	2	3	3

TASK CODE: II.A.22	GOAL: Maintain hazardous chemical bulk liquid cargo equipment and safety equipment.
OBJECTIVE: Inspect, test and repair equipment.	
TASK: Inspects visually cargo space area where "hot work" will be performed (welding, hammering, chipping, etc.), according to check list, checks for flammable vapor and oxygen content of cargo space, looks for impregnated scale or other material likely to give off flammable/harmful vapor, checks adjacent spaces, evaluates what may happen when heat is transmitted by conduction to next space, using own judgment, knowledge and experience in order to determine whether or not it is safe to permit hot work in a particular area of vessel.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly and accurately. Numerical: • "Hot work" is not permitted in all cases where dangerous conditions exist (e.g., presence of flammable/harmful vapors, heat sensitive material in adjacent spaces, etc.).	Functional: • General knowledge of layout of vessel's spaces. • How to inspect and evaluate conditions for safe conduct of potentially dangerous work. Specific: • Knowledge of specific location where hot work is to be performed. • Knowledge of standard operating procedures. • Knowledge of hazardous properties of specific chemical cargo previously carried in cargo tank.

TASK CODE:	II.A.23

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	35	1A	5	2B	60	2	3	2	4

TASK CODE: II.A.23	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Inspect, test and repair equipment.

TASK: Operates/controls cargo pump (starts, stops, controls speed using push buttons on control panel), following standard operating procedure, in order to test proper functioning of cargo pump relief valves at set pressures, cargo pump pressure gages for accuracy and cargo discharge piping for tightness.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Operates and controls cargo pump correctly. • Completes tests accurately and thoroughly. Numerical: • Completes all tests at specified frequency.	Functional: • General knowledge of operating principles of cargo pump, relief valves, pressure gages, etc. • How to operate cargo pump controls. • How to determine if equipment is functioning properly. • How to use available tools and equipment. Specific: • Knowledge of specific standard operating procedures. • Knowledge of specific cargo pumps, relief valves, pressure gages, cargo piping, etc.

TASK CODE:	II.A.24

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	35	1A	5	1C	60	2	2	1	3

TASK CODE: II.A.24	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Inspect, test and repair equipment.	
TASK: Tends air compressor (starts, stops, using push button controls), supplying air to compressed air personnel safety equipment, visually inspects critical areas of safety equipment to detect air leakage, according to check list, in order to conduct performance tests on compressed air personnel safety equipment.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Operates and controls air compressor correctly. • Completes tests accurately and thoroughly. Numerical: • Completes tests of all compressed air personnel safety equipment when required.	Functional: • How to operate air compressor controls. • How to determine equipment is functioning properly. • How to read and follow procedures. Specific: • Knowledge of specific air compressor subsystem (compressor, air lines, relief valves, stop valves, etc.). • Knowledge of specific personnel safety equipment (e.g., fresh air breathing apparatus).

TASK CODE: II.A.25									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	35	1A	5	1C	60	2	1	1	3

TASK CODE: II.A.25	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:

Inspect, test and repair equipment.

TASK:

Opens valves (manually turns handwheel) controlling decontamination shower and eyewash operation according to check list, in order to test proper functioning of safety equipment.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Opens valves properly. • Completes tests in a thorough manner. Numerical: • Completes tests on all decontamination showers and eyewashes when required.	Functional: • How to operate valves. • How to determine equipment is functioning properly. • How to read and follow procedures. Specific: • Knowledge of specific decontamination shower and eyewash equipment.

TASK CODE:	II.B.1

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	80	1A	5	1	15	4	4	3	4

TASK CODE:	II.B.1	GOAL:	Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Examines and evaluates data concerning the facilitation of cargo changes in cargo tanks, and considers other factors aboard ship or in environment, in order to determine when/if tanks should be cleaned (gas-freed).

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Good judgment is used in discretionary areas. • Evaluates/examines information data thoroughly and accurately. • Shows an awareness of potential hazards of cleaning and gas-freeing. Numerical: • Examines and evaluates all available data.	Functional: • General knowledge of the operation, hazards, and restrictions of cleaning and gas-freeing procedures. • General knowledge of the conditions necessitating cleaning and gas-freeing operations. • How to read, understand company, terminal, and federal regulations. • How to identify unsafe conditions resulting from improper or inappropriate cleaning and gas-freeing operations. Specific: • Knowledge of chemical characteristics and hazardous properties of cargo being transferred from and to cargo compartments. • Knowledge of specific cleaning and gas-freeing operations.

TASK CODE:	II.B.2								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	2	30	1A	10	3	4	2	4

TASK CODE: II.B.2	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Clean and gas-free cargo tanks.	
TASK: Inspects visually closure of appropriate cargo tank lids, tank washing openings, ullage openings, vent pipes, isolation of cargo lines and vent lines, closure of sea and overboard discharge valves, cargo space is clear of workers, and other items according to check list, converses with terminal representatives if vessel is in port, notifies personnel aboard vessel that cargo tank gas-freeing operations will be started, in order to ensure proper safety precautions are taken before starting gas-freeing/cleaning operations.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough manner. Numerical: • All specified items are inspected.	Functional: • General knowledge of cargo transfer subsystem (cargo tanks, cargo tank lids, tank openings, vent pipes, cargo lines, vent lines, sea and overboard discharge valves, etc.). • How to inspect hardware and detect unsafe conditions. • General knowledge of tankship safety practices. Specific: • Knowledge of specific layout of cargo transfer subsystem on vessel. • Knowledge of standard operating procedures.

TASK CODE:	II.B.3

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	40	5	50	1	10	5	5	3	4

TASK CODE:	II.B.3	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Directs personnel to prepare for cleaning and gas-freeing operations such as adjusting tank pressure, securing valves common to other systems, opening tank lids, clearing lines, making hose connections, removing electrically-conductive and unearthed objects, following standard operating procedure, and using own knowledge of cleaning and gas-freeing operations, and properties of cargo transferred to and from tanks, and own judgment in order to assure that tanks, equipment and ship area are adequately prepared for cleaning and gas-freeing operations.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Maintains effective communication with personnel. • Directs preparations at the appropriate time preceding cleaning and gas-freeing operations. • Assures that equipment adjustments are performed properly. • Uses good judgment in discretionary areas. Numerical: • All necessary equipment preparations are made prior to cleaning and gas-freeing operations. • Directs and maintains effective communication with personnel at all times.	Functional: • General knowledge of tank cleaning and gas-freeing operations and equipment. • How to prepare equipment, cargo tanks, ship area for cleaning and gas-freeing operations. • General knowledge of the hazards of cargo tank cleaning and gas-freeing operations. • How to supervise and communicate with shipboard personnel. • Knowledge of the effect of various hazardous properties of cargoes and different atmospheric conditions in tanks on cleaning and gas-freeing operations. Specific: • Knowledge of vessel's standard operating procedures concerning cleaning and gas-freeing operations. • Knowledge of chemical properties of cargo being transferred to or from cargo tanks and atmospheric conditions in tanks.

TASK CODE: II.B.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	40	5	50	1A	10	4	4	3	4

TASK CODE: II.B.4	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Directs personnel in the installation of cleaning machine in cargo tank, observes the machine being lowered with rope fastened to fixture on deck or lifting gear such as ship's tackle ropes, pulleys, etc., does not permit machine to be lowered or removed from tank if ship's motion is likely to cause metal surfaces to strike steel structure of vessel, following standard operating procedure and using communications equipment when necessary, and own judgment in order to prepare machine for removal of flammable chemical cargo residue from tank walls.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Directs personnel effectively. • Maintains effective communication with personnel. • Ensures that equipment is properly set up. • Ensures that arrangement is completely accurate and thorough according to specified procedures. • Uses good judgment in discretionary areas. Numerical: • In all cases involving flammable chemical liquid cargo residue and where the risk of metal machine surface is likely to strike steel structure due to vessel motion, cleaning machine is not lowered into tank or is removed from tank. • Directs and maintains effective communication with personnel at all times. • Judgment is good in all discretionary cases.	Functional: • How to supervise/communicate with shipboard personnel. • General knowledge of tanker safety practices related to cargo tank cleaning operations. • How to lower heavy equipment into cargo tanks. • How to read and follow standard operating procedures, tanker safety practices. • How to judge unsafe working conditions due to vessel motion. Specific: • Knowledge of vessel's cargo tank cleaning equipment (washing machine, lifting gear, etc.). • Knowledge of specific standard operating procedures.

TASK CODE:	II.B.5

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	50	5	40	1	10	4	4	3	4

TASK CODE:	II.B.5	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Directs personnel in cargo tank cleaning and gas-freeing operations, following standard operating procedure, using onboard permanent or portable communications equipment or face-to-face communication and using own judgment in ensuring that procedures are appropriate to atmospheric conditions in cargo tank or to the specific hazards of cargo that is transferred to and from tanks being washed or gas-freed.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Ensures that cleaning and gas-freeing operations are thorough and completed according to standard operating procedure.	• General knowledge of tank cleaning and gas-freeing operations and equipment.
• Maintains effective communication with personnel.	• How to understand standard operating procedures relevant to cargo transfer operations.
• Uses good judgment in discretionary areas.	• General knowledge of the hazards and problems with cleaning and gas-freeing operations.
Numerical:	• How to supervise and communicate with shipboard personnel.
• Correct procedures are directed in accordance with each atmospheric condition or other unique characteristics of cargo being transferred.	• Knowledge of the effect of different atmospheric conditions in cargo tanks on cleaning or gas-freeing operations.
• Appropriately directs and maintains effective communication with personnel at all times.	• Knowledge of the effect of various hazardous properties of cargoes on cleaning and gas-freeing operations.
	Specific:
	• Knowledge of specific standard operating procedures.
	• Knowledge of atmospheric conditions in cargo tanks and hazardous properties of specific cargo being transferred to and from tanks being cleaned and gas-freed.

TASK CODE:	II.B.6								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	40	1A	10	2B	50	3	3	3	4

TASK CODE: II.B.6	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE:

Clean and gas-free cargo tanks.

TASK: Operates/controls cargo tank water spray washing machine (starts, stops, controls speed), using push buttons on control panel, monitors operating dials, following standard operating procedure, and using judgment to stay within limits, in order to remove liquid cargo residue from tank walls.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Avoids the generation of static electricity by not permitting wash water flow rate to exceed limits specified in current tanker safety codes. Numerical: • Less than X% complaints that tank cleanliness was inadequate. • In all cases, water flow rate does not exceed limits specified in current tanker safety codes so as to avoid generation of static electricity.	Functional: • General knowledge of operating principles of cargo tank water spray washing machine. • How to operate controls on control panel. • How to read dials. • How to inspect cargo tank for cleanliness. • Knowledge of tanker safety practices (e.g., International Oil Tanker and Terminal Safety Guide). Specific: • Knowledge of specific water spray washing machine operation. • Knowledge of specific cargo tanks. • Knowledge of standard operating procedure on cargo tank cleaning.

TASK CODE:	II.B.7

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	40	1A	10	2B	50	3	3	3	4

TASK CODE: II.B.7	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Operates/controls cargo pump (starts, stops, controls speed) using push buttons on control panel, observes dials indicating operating pressures and transfer rate, following standard operating procedure, does not permit overboard discharge of cleaning liquid/cargo residue, in order to transfer cleaning liquid and cargo residue from cargo tank to slop tank.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Operates/controls liquid transfer in a proper manner. <u>Numerical</u>: • <u>All</u> cargo residue is transferred to slop tank.	<u>Functional</u>: • General knowledge of operating principles of cargo pump and transfer subsystem. • How to operate controls on control panel. • How to read dials. • Knowledge of tanker safety practices (e.g., International Oil Tanker and Terminal Safety Guide). <u>Specific</u>: • Knowledge of standard operating procedure for cleaning cargo pumps. • Knowledge of specific cargo pump operation. • Knowledge of specific cargo and slop tanks and their location.

TASK CODE: II.B.8									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	35	1A	5	1C	60	2	2	1	4

TASK CODE: II.B.8	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.

OBJECTIVE: Clean and gas-free cargo tanks.

TASK: Tends inert gas or air blower equipment (starts, stops), using push buttons on control panel, following standard operating procedure, in order to eliminate hazardous cargo vapors in cargo tanks.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Tends blower equipment in a proper manner. <u>Numerical</u>: • Removes cargo vapors and eliminates hazard in <u>all</u> cases.	<u>Functional</u>: • General knowledge of operating principles of inert gas or air blower equipment used to gas-free cargo tanks. • How to operate blower equipment controls. • How to read operating instructions and procedures. • Knowledge of tanker safety practices (e.g., International Oil Tanker and Terminal Safety Guide). <u>Specific</u>: • Knowledge of standard operating procedure for gas-freeing cargo tanks. • Knowledge of specific inert gas or air blower equipment operation.

TASK CODE: II.B.9									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	60	1A	5	2A	35	4	4	3	4

TASK CODE: II.B.9	GOAL: Maintain hazardous chemical liquid bulk cargo equipment and safety equipment.
OBJECTIVE: Clean and gas-free cargo tanks.	
TASK: Examines and evaluates data concerning the presence of hazardous vapor in cargo tanks, carries and uses portable gas indicators and reads gauges, manipulating switches and controls that sample atmosphere, following standard operating procedure, and own judgment and knowledge, in order to test atmosphere and determine whether space is clear of hazardous vapor.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Evaluates and examines data thoroughly and accurately. • Good judgment is used in discretionary areas. • Manipulates equipment correctly. • Completes tests which are accurate and thorough, and representative of the condition of the entire space in question. • Completes tests at intervals appropriate to the work at hand. Numerical: • Fewer than X% complaints on accuracy of tests.	Functional: • How to identify unsafe conditions due to hazardous vapors in tanks. • How to read dials containing decimal scale. • How to determine if tank is gas-free. • Knowledge of tanker safety practices (e.g., International Oil Tanker and Terminal Safety Guide). Specific: • Knowledge of standard operating procedure on the use of portable gas indicators. • Knowledge of flammability limits and toxic vapor threshold limit values.

TASK CODE: III.A.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	2	35	1A	5	3	3	2	4

TASK CODE: III.A.1	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Plan cargo transfer operations.

TASK: Communicates with terminal authorities about formulated cargo transfer plan via radio in order to receive berthing information relating to cargo transfer operations, to obtain mooring plan, to receive data on cargo transfer procedures, facilities, and emergency plan characteristics of port, and to give pertinent information on vessel and cargo characteristics.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Communicates clearly and concisely and fully understands received information. <u>Numerical</u>: • Communicates <u>all</u> necessary, pertinent information relating to ship/cargo characteristics. • Understands <u>all</u> data received from terminal authorities.	<u>Functional</u>: • How to use ship-to-shore communications equipment. • How to use and understand terminology related to berthing maneuvers and the transfer of chemical bulk cargo. <u>Specific</u>: • Knowledge of ship and cargo characteristics and specified cargo transfer procedures. • Knowledge of type and location of communications equipment onboard ship. • Knowledge of port facilities including availability of terminal access equipment, compatibility of ship/terminal cargo equipment and particular berthing locations, etc.

TASK CODE: III.A.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5A	70	2	20	1	10	5	5	3	4

TASK CODE: III.A.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Plan cargo transfer operations.

TASK: Formulates cargo transfer emergency procedures to be followed and determines personnel to be notified in the event of leakages, spills, overflows, equipment failures, fires, using knowledge of equipment and personnel capabilities, cargo hazards, ship characteristics and layout, existing standard operating procedure on safety regulations, and own judgment, in order to minimize damage and danger during emergency situations and exclude any change of accidental ignition of cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Uses good judgment in establishing procedures in discretionary areas. • Establishes effective procedures, commensurate with personnel and equipment capabilities. • Established procedures are clear and complete. Numerical: • All established procedures are clear and complete.	Functional: • General knowledge of hazards of liquid cargo spills, leakages, overflows and of equipment failures or other emergencies which could affect the safety of cargo (some data in decimals). • General knowledge of company, terminal, and Coast Guard safety regulations relevant to cargo spills and other emergencies which may affect safety of cargo. • How to evaluate capabilities of equipment and personnel used in emergency situations. Specific: • Knowledge of specific equipment and personnel available on vessel. • Knowledge of standard operating procedures for particular vessel and terminal. • Knowledge of ship characteristics and layout and usual lines of communication within ship and between ship and shore personnel.

TASK CODE: III.A.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	85	1A	5	1A	10	4	4	3	4

TASK CODE: III.A.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Plan cargo transfer operations.

TASK: Reads/evaluates information on cargo manifest, shipping papers, manufacturer's certificates (such as cargo inhibition and stabilization certificates), comparing information with criteria specified in standard operating procedure, in order to determine if sufficient information is available for safe transportation of specific chemical cargo, and whether cargo loading should be permitted.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Compares items on shipping papers with criteria in a thorough and accurate manner. • Decisions are consistent with available information. Numerical: • Refuses cargo loading in all cases where insufficient information is provided.	Functional: • How to evaluate shipping data in relation to safety criteria for maintaining cargo stability during transport (some data may be expressed in decimals). Specific: • Knowledge of standard operating procedures for specific chemical cargo carried.

TASK CODE:	III.A.4								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
5B	75	1A	5	2B	20	4	4	4	4

TASK CODE: III.A.4	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Plan cargo transfer operations.

TASK: Plans the sequence of liquid cargo transfer into or out of various tanks, cargo hose layout, pumps and pipleines to be used, refers to standard operating procedure and vessel's loading manual and uses loading computer (if available), in order to minimize dangerous conditions and transfer cargo efficiently.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Cargo transfer plan is complete, accurate, and well organized. Numerical: • Less than X% complaints that plan was incomplete or inaccurate.	Functional: • How to plan cargo transfer operations. • How to calculate vessel trim and stability without the use of a loading computer (includes algebraic concepts). • How to use loading computer to compute vessel stresses and optimum loading plan with proper vessel trim and stability. Specific: • Knowledge of cargo tanks, piping arrangement, cargo pumps, valves, etc. • Knowledge of specific chemical cargo's physical and chemical properties and hazards. • Knowledge of vessel's loading procedures and factors affecting safety (i.e., rate of cargo transfer, possible mixing of incompatible cargoes, cargo weight distribution, vessel trim, vessel stability, vessel stresses, amount of time for handling certain cargo and other special precautions). • Knowledge of factors affecting trim and stability (free surface effect, sea state, etc.). • Knowledge of vessel's loading computer and program input codes to compute optimum loading plan.

TASK CODE:	III.A.5								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	75	1A	5	1A	20	4	4	3	4

TASK CODE: III.A.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Plan cargo transfer operations.

TASK: Plans chemical cargo separation scheme, ensures reactive chemical cargoes are adequately separated from hazardous areas, following standard operating procedure and using own judgment and knowledge in order to prevent flammable vapors from reacting with sources of ignition, toxic vapor contamination of sensitive areas, and dangerous accidental mixing of incompatible cargoes and materials.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Cargo separation plan is complete, accurate and well organized. Numerical: • In all cases, flammable chemical cargo is separated from vessel machinery and boiler spaces, accommodation and service spaces. • In all cases, toxic chemical cargo is separated from vessel accommodation and service spaces, drinking water and stores for human consumption. • In all cases, where chemical cargo is dangerously reactive with other cargoes and/or water, adequate separation is provided.	Functional: • How to plan safe cargo separation schemes using inert vessel spaces and systems. Specific: • Knowledge of vessel's inert spaces to be used for separation (i.e., cofferdams, void spaces, pump rooms, or other similar spaces). • Knowledge of standard operating procedures, requiring the use of separate pumping, piping and vents for certain chemical cargoes. • Knowledge of vessel's tanks containing water (e.g., slop tanks, ballast tanks and pumps and lines serving such tanks). • Knowledge of layout of vessel's spaces, piping, pumps, vents, etc. • Knowledge of specific chemical cargo's hazardous properties (i.e., reactivity with other cargo/water, flammability, autoignition temperature, toxicity, etc.).

TASK CODE: III.A.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	70	1A	5	4	4	2	4

TASK CODE: III.A.6	GOAL: Conduct hazardous chemical liquid bulk cargo operations safely.
OBJECTIVE: Plan cargo transfer operations.	

TASK: Selects and determines the number of crew members needed to perform the cargo transfer operation, selecting out on the basis of observable behavior anyone under the influence of liquor or other stimulant or anyone who is ill or otherwise physically or mentally incapable of performing his assigned duties, checks documented qualifications and describes work details to them, following standard operating procedure, using own judgment in order to ensure sufficient personnel resources are available to perform cargo transfer operations safely.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Selects sufficient number of qualified crew members. • Communicates task details clearly to crew members. Numerical: • In all cases there is sufficient number of people to perform cargo transfer operations. • Fewer than X% of persons selected are physically or mentally incapable of performing assigned tasks. • All documents relating to personnel qualifications are checked for accuracy.	Functional: • How to determine sufficient number of qualified crew members to perform tasks. • How to judge capabilities of dockside manpower to handle cargo safely. • How to communicate task details. Specific: • Knowledge of work to be done. • Capabilities of personnel performing cargo transfer operations. • Knowledge of specific standard operating procedures.

TASK CODE:	III.B.1

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	40	5	50	1	10	4	4	3	4

TASK CODE: III.B.1	GOAL: Conduct hazardous chemical liquid bulk transfer operations safely.

OBJECTIVE:

Install necessary equipment for cargo transfer operations.

TASK: Directs personnel in the installation of necessary equipment for vessel cargo transfer operations, following standard operating procedure, using own judgment and knowledge of cargo transfer operations and related equipment, and using onboard communications equipment when necessary, in order to ensure that cargo transfer equipment is installed properly and safely.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Directs personnel effectively, correctly, safely. • Ensures that installations are completed correctly and according to standard operating procedure. • Uses good judgment in discretionary areas. • Maintains effective communication with personnel. Numerical: • Fewer than X% of cases maintain that communication is ineffective.	Functional: • General knowledge of cargo transfer operations and equipment used in such operations. • General knowledge of hazards and problems commonly associated with the installation of cargo transfer equipment. • How to supervise and communicate with shipboard personnel. • How to identify equipment used in cargo transfer operations. Specific: • Knowledge of specific standard operating procedures involved. • Knowledge of properties and hazards of particular cargo being transferred and carried. • Knowledge of specific kinds of equipment required for transfer operations.

TASK CODE:	III.B.2								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	20	1A	5	2A	75	2	2	3	2

TASK CODE: III.B.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:
Install necessary equipment for cargo transfer operations.

TASK: Connects piping or hose to vessel's vent piping and shoreside vapor recovery piping using available tools and equipment, ship's tackle and other lifting gear; aligns vapor return subsystem (opens, closes valves) between vessel cargo tank vents and shore facilities, following standard operating procedure, in order to reclaim vapors during the transfer of a specific chemical cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly set up. • Arrangement is completed accurately and thoroughly according to specified procedures. Numerical: • Fewer than X complaints that equipment was not set up according to specified procedures.	Functional: • How to open and close valves. • How to connect piping. • How to read and follow prescribed procedures. Specific: • Knowledge of vessel's cargo vapor return subsystem (piping, valves, pipe flanges, vent pipes, etc.). • Knowledge of specific tools and equipment (wrenches, ship's tackle, etc.). • Knowledge of specific procedures. • Knowledge of hazardous properties of specific chemical cargoes (e.g., toxicity, etc.).

TASK CODE:	III.B.3

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	20	1A	5	2A	75	2	2	1	3

TASK CODE: III.B.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:
Install necessary equipment for cargo transfer operations.

TASK: Aligns (manually turns valve wheels or handles) and seals valve wheels of all sea and ballast valves in their correct position with rope lashings or other suitable means following standard operating procedure, using available tools and equipment in order to close sea and ballast valves that are connected to the cargo piping system and avoid leakage of cargo to the equipment.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly set up. • Arrangement is completed thoroughly according to specified procedures. **Numerical:** • All sea and ballast valves that are connected to cargo piping system are closed in all cases of hazardous chemical cargo transfer.	Functional: • General knowledge of sea and ballast valve arrangement aboard vessels. • How to align and seal sea and ballast valves. • How to read standard operating procedures. Specific: • Knowledge of specific sea and ballast valve locations. • Knowledge of specific chemical cargo and hazardous properties. • Knowledge of specific cargo piping system. • Knowledge of specific standard operating procedures.

TASK CODE:	III.B.4								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	20	1A	5	2A	75	2	2	2	3

TASK CODE:	III.B.4	GOAL:	Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE:	Install necessary equipment for cargo transfer operations.		

TASK: Sets up fire fighting equipment (makes accessible fully charged portable fire extinguishers, uncoils and connects fire hose to firemain, ensures foam or dry powder monitors are operable and fire pump is placed in standby condition) according to standard operating procedure and with reference to vessel's certificate of inspection specifying the minimum amount of equipment required in order to have fire fighting equipment ready and operable before cargo transfer operations begin.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly set up. • Arrangement is completed according to requirements. Numerical: • In all cases, required fire extinguishing equipment is set up according to requirements.	Functional: • How to set up and make accessible fire fighting equipment. • How to read standard operating procedures. Specific: • Knowledge of vessel's certificate of inspection. • Knowledge of specific standard operating procedures. • Knowledge of vessel's fire fighting equipment.

TASK CODE:	III.B.5								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	20	1A	5	2A	75	1	1	1	2

TASK CODE: III.B.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Install necessary equipment for cargo transfer operations.	
TASK: Connects a water hose with pressure to the nozzle (connects hose to firemain and opens firemain valve), following standard operating procedure, using available tools (wrenches, etc.), in order to ensure a sufficient water supply to wash away small spills of a specific chemical cargo during cargo transfer operations.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly connected. • Arrangements completed thoroughly according to instruments. Numerical: • Water hose is connected in all cases of specific chemical cargo transfer.	Functional: • How to connect and pressurize water hose. Specific: • Knowledge of prescribed procedures for connecting water hose. • Knowledge of water hose, firemain, piping system, etc. • Knowledge of hazardous properties of specific cargo.

TASK CODE:	III.B.6

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	35	1A	5	2A	60	2	2	1	2

TASK CODE: III.B.6	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Install necessary equipment for cargo transfer operations.

TASK: Places warning signs (red flag, red electric lantern, warning and chemical information placards), following standard operating procedure, in order to visibly warn personnel that flammable, combustible and other dangerous liquid cargo is being transferred.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Warning signs are properly set up. • Location of warning signs are in accordance with standard operating procedures. Numerical: • Warning signs are set up in proper location in all cases.	Functional: • How to set up warning signs. Specific: • Knowledge of standard operating procedures for the display of warning signs.

TASK CODE:	III.B.7

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3A	80	1A	5	1A	15	3	2	3	2

TASK CODE: III.B.7	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Install necessary equipment for cargo transfer operations.

TASK: Calculates weights involved for ship's tackle (rope and pulley assembly), if needed, to support cargo hose, using own judgment and knowledge in order to ensure sufficient tackles are used.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Weight estimates are accurate and completed with reasonable speed. Numerical: • Estimates are sufficiently accurate to insure adequate cargo hose support in all cases.	Functional: • How to estimate equipment weight. Specific: • Knowledge of specific cargo hose used in cargo transfer. • Knowledge of and location of specific ship's tackle.

TASK CODE: III.B.8									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	20	1A	5	2A	75	2	2	1	4

TASK CODE: III.B.8	GOAL: Conduct hazardous chemical bulk cargo transfer operations safely.
OBJECTIVE: Install necessary equipment for cargo transfer operations.	
TASK: Connects electrical bonding wire between tank vessel and shore piping (through which liquid cargo is to be transferred) before connecting cargo hose, following standard operating procedure, and using available tools and equipment, in order to provide a path to ground for stray currents generated during cargo transfer.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly set up. • Arrangement is completed thoroughly according to specified procedures. Numerical: • No complaints that equipment was not set up according to specified procedures.	Functional: • General knowledge of tanker safety practices (e.g., International Oil Tanker and Terminal Safety Guide). • How to read instructions for setting up equipment. • How to read standard operating procedures. Specific: • How to connect electrical bonding wire to specific terminal piping and vessel. • Knowledge of specific standard operating procedures (i.e., connects wire before cargo hose is connected, before connecting wire to vessel ensures wire switch is open, closes switch after connection is made).

TASK CODE:	III.B.9								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	20	1A	5	1A	75	1	1	1	2

TASK CODE: III.B.9	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Install necessary equipment for cargo transfer operations.	
TASK: Installs plugs in vessel scuppers (deck openings) before cargo transfer, following standard operating procedure, using available tools and equipment, in order to prevent any accidental spill or overflow from running overboard.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Plugs are properly installed. Numerical: • All scuppers are properly plugged.	Functional: • How to install scupper plugs. • How to read instructions. Specific: • Knowledge of standard operating procedures. • Knowledge of scupper locations.

TASK CODE:	III.B.10

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	20	1A	5	2A	75	2	2	3	2

TASK CODE: III.B.10	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Install necessary equipment for cargo transfer operations.

TASK: Connects cargo hose following standard operating procedure, using available tools and equipment, in order to connect vessel piping to shore piping for safe cargo transfer.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly connected. • Arrangements completed thoroughly, according to instructions. **Numerical:** • Cargo hose connections are properly made in all cases.	**Functional:** • How to read instructions for setting up equipment. • *How to connect cargo hose equipment.* **Specific:** • Knowledge of standard operating procedures for connecting cargo hose (i.e., making allowance for vessel movement, using properly gasketed flange joints and bolted tight with at least 3 bolts, properly supports hose, places pans or buckets under cargo hose connections aboard vessel, sets up shields around flanges of manifold connections to guard against cargo spray of certain chemicals such as acids). • Knowledge of specific cargo hose, cargo piping, terminal piping, etc. • Knowledge of specific chemical cargo's hazards (acidity, etc.).

TASK CODE:	III.C.1								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE:	III.C.1	GOAL:	Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually the vessel's certificate of inspection to determine if it is endorsed for the chemical liquids to be loaded, to make note of any special loading restrictions; checks for display of required warning signs and sees that cargo information cards for the chemical cargo are aboard and other specified items according to check list, using own judgment and knowledge in order to ensure safe conditions prior to cargo transfer.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection thoroughly. Numerical: • All specified items are inspected. • In all cases, detects unsafe conditions when they exist.	Functional: • How to inspect hardware items. • How to detect unsafe conditions. • How to read certificate of inspection. Specific: • Knowledge of specific check list. • Knowledge of vessel's certificate of inspection, warning signs, chemical cargo information cards. • Knowledge of specific chemical cargo to be loaded.

TASK CODE:	III.C.2								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.	
TASK: Inspects visually cargo tank's gaging device, according to check list, using own judgment and knowledge, in order to ensure instrumentation is in proper operating order for a particular liquid chemical cargo.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • In all cases involving the handling of grade A flammable chemical liquid cargo, inspects cargo tank's gaging device.	Functional: • How to inspect liquid level measuring instrument. Specific: • Knowledge of cargo tank's gaging device. • Knowledge of hazardous properties of flammable grade A chemical liquid cargo. • Knowledge of check list.

TASK CODE:	III.C.3

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	55	2	35	1A	10	3	3	2	3

TASK CODE: III.C.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Checks visually personnel aboard ship following standard operating procedure, in order to ensure unauthorized personnel are not onboard, and that authorized personnel do not board ship when smoking.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes check in a thorough and accurate manner. • Communicates clearly with personnel. Numerical: • Ensures unauthorized personnel are not onboard ship, and authorized personnel do not board ship while smoking.	Functional: • How to check for and identify unauthorized personnel. Specific: • Knowledge of authorized personnel.

TASK CODE:	III.C.4								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	3	3

TASK CODE: III.C.4	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects fire hoses and hose connections, fire monitors (if fitted), the placement, readiness, and accessibility of portable fire extinguishers, standby pumps, and other appropriate or required fire fighting equipment, according to check list, and using own judgment in order to ensure that fire fighting equipment is ready and accessible for use in emergency situations.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • Ensures all appropriate and fire fighting equipment is ready and accessible.	Functional: • How to inspect fire hoses, pumps, extinguishers, and other common pieces of fire fighting equipment. • How to read, interpret safety regulations. • How to detect unsafe conditions relating to lack of or inaccessibility of fire fighting equipment. Specific: • Knowledge of type and location of specific fire fighting equipment onboard ship. • Knowledge of specific check lists for the preparation and readiness of fire fighting equipment.

TASK CODE:	III.C.5

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually sea valves connected to cargo piping and ship pipelines, according to check list, using own judgment and knowledge in order to ensure sea valves are closed and pipelines are blanked.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • In all cases, sea valves that are connected to cargo piping system are closed prior to transfer of cargo and pipelines not in use are blanked.	Functional: • How to examine sea valves and pipelines, and determine whether they are open, closed, or blanked. Specific: • Knowledge of sea valves and their location aboard ship. • Knowledge of cargo piping system. • Knowledge of check list.

TASK CODE:	III.C.6								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	90	1A	5	1A	5	2	2	2	2

TASK CODE:	III.C.6	GOAL:	Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects artificial light sources, according to check list, in order to ensure that adequate, safe lighting is operational and accessible for nighttime ship-to-shore connections and cargo transfer operations.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Completes inspection in a thorough and accurate manner.	• How to inspect lighting equipment for safety and adequacy.
Numerical:	Specific:
• Inspects all light sources for adequacy and safety.	• Knowledge of type and location of lighting equipment onboard vessel. • Knowledge of location of work stations and procedures used on particular vessel for particular cargo type. • Knowledge of check list.

TASK CODE: III.C.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.7	GOAL: Conduct hazardous chemical liquid bluk cargo transfer operations safely.

OBJECTIVE:

Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually vessel's operating boilers and galley, observes their location retlative to cargo vapors, according to check list, using own judgment and knowledge in order to determine whether boiler and galley fires can remain lighted with reasonable safety during loading of chemical liquid flammable cargoes.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • In all cases detects unsafe conditions when they exist.	Functional: • How to inspect vessel's boilers and galley equipment. • How to detect unsafe conditions. Specific: • Knowledge of specific vessel's boilers and galley facilities. • Knowledge of specific vessel's cargo tanks, vent systems, cargo piping, and manifold systems. • Knowledge of chemical liquid flammable hazards. • Knowledge of check list.

TASK CODE:	III.C.8

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.8	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually cargo connections for loading of chemical liquid cargoes according to check list, rejects any defective segments, inspects emergency release devices, looks for improperly rigged hoses, using own judgment and knowledge in order to ensure cargo connection is safe and adequate.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. • Ensures chemical cargo is loaded through vessel's pipelines and not through open end hose in hatch. Numerical: • Cargo connection is adequate in all cases of cargo transfer. • All defective segments are replaced and improper rigging corrected.	Functional: • How to inspect cargo connections aboard vessels. • How to identify defective or improperly rigged hoses. Specific: • Knowledge of cargo connections, cargo hose, coupling flange, vessel pipelines, cargo tanks and cargo hatches. • Knowledge of chemical liquid's hazards. • Knowledge of specific check list.

TASK CODE: III.C.9									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.9	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.	
TASK: Inspects visually cargo tank openings, according to check list, using own judgment and knowledge in order to ensure all openings in the top of tanks (required to be closed) are tightly closed when loading chemical liquid cargo.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • In all cases, all tank top openings required to be closed are tightly closed before loading chemical liquid cargo.	Functional: • How to inspect cargo tank openings. Specific: • Knowledge of vessel's cargo tank openings. • Knowledge of check list.

TASK CODE: III.C.10									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.10	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually deck areas and spaces, facing, open and adjacent to cargo connections for open flames, and closes doors, ports, windows, vents, air conditioning intakes where appropriate, according to check list, using own judgment and knowledge in order to ensure that appropriate protection is taken against ignition of vapor emissions of chemical liquid flammable cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Completes inspection in a thorough and accurate manner. <u>Numerical</u>: • Eliminates <u>all</u> sources of open flames prior to loading of flammable chemical liquid cargo. • Closes <u>all</u> appropriate doors, ports, vents, air conditioning intakes, etc.	<u>Functional</u>: • How to inspect deck areas and spaces aboard ship. • How to detect unsafe conditions (e.g., fires and open flames). <u>Specific</u>: • Knowledge of specific vessel's spaces and sources of fires or open flames. • Knowledge of chemical liquid cargo's flammability hazard. • Knowledge of check list.

TASK CODE: III.C.11									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	2	3

TASK CODE: III.C.11	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually the location of spaces and areas relative to cargo tanks, vents, manifold area, according to check list and using own judgment and knowledge in order to determine whether smoking may be permitted with reasonable safety in those areas during loading of chemical liquid flammable cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Completes inspection in a thorough and accurate manner. <u>Numerical</u>: • In all cases, detects unsafe conditions when they exist.	<u>Functional</u>: • How to inspect shipboard spaces, and cargo handling deck areas. • How to detect unsafe conditions. <u>Specific</u>: • Knowledge of specific vessel's cargo tanks, vents, manifold area. • Knowledge of chemical liquid's flammable hazard. • Knowledge of check list.

TASK CODE: III.C.12									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
1	50	2	40	1A	10	2	3	1	3

TASK CODE: III.C.12	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects visually the closing of cargo valve when emergency controls (control panel push button switch or manual level in pipeline) are tested, according to check list; converses with terminal representative to coordinate test, in order to ensure emergency shut down operation works properly prior to transfer of cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Complete test accurately and thoroughly. Numerical: • In all cases, emergency shut down test is conducted prior to hazardous chemical transfer operations.	Functional: • How to determine equipment is functioning properly from visual operation of valves. • How to communicate with terminal personnel about test procedures. Specific: • Knowledge of specific emergency shut down controls and valves. • Knowledge of appropriate terminal personnel. • Knowledge of hazards associated with chemical liquid bulk cargo and additional specific hazards (e.g., flammability, reactivity, health, etc.). • Knowledge of check list.

TASK CODE:	III.C.13								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	60	1A	5	2A	35	4	4	3	4

TASK CODE: III.C.13	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Examines and evaluates data concerning content of inert gas, carries and uses portable gas analysis equipment and reads gages, manipulates switches provided with equipment, following manufacturer's instructions and standard operating procedure, prior to loading a specific chemical cargo, in order to test a sample of inerting gas and ensure it meets prescribed standards.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Examines and evaluates data thoroughly and accurately. • Good judgment is used in discretionary areas. • Manipulates equipment correctly. • Completes tests accurately and thoroughly. • Completes tests when required. Numerical: • X number of complaints on accuracy of tests.	Functional: • How to evaluate data relating to inert gas control. • How to manipulate analytic equipment. • How to read dials (with decimal scales). • How to read manufacturer's instructions. Specific: • Knowledge of standard operating procedures and manufacturer's instructions. • Knowledge of standards for inert gas padding of specific chemical cargo. • Knowledge of specific chemical cargo's hazards (e.g., flammability, reactivity, toxicity, etc.).

TASK CODE: III.C.14									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	60	2	30	1A	10	3	3	2	3

TASK CODE: III.C.14	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.	
TASK: Checks visually craft alongside tankship and communicates with terminal personnel via radio following standard operating procedure, in order to ensure that no unauthorized craft is alongside, and that authorized craft has been advised of cargo operations.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes check in a thorough and accurate manner. • Communicates clearly with terminal personnel. Numerical: • Ensures unauthorized craft is not alongside vessel and all authorized crafts are aware of cargo operations.	Functional: • How to check for and identify unauthorized craft. • How to operate ship's radio. Specific: • Knowledge of ship's radio. • Knowledge of craft alongside.

TASK CODE: III.C.15									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1	5	1	5	3	3	2	3

TASK CODE: III.C.15	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.	
TASK: Inspects permanent and portable spark generating equipment onboard ship according to check list, such as radio and telephone systems, searchlights, loud hailers, electrical controls for ship's whistles, and other equipment capable of producing sparks in order to ensure disconnection or switching of transmissions from transmitters to earth.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough and accurate manner. Numerical: • Disconnects all electric transmission hazardous to cargo transfer operations unless equipment is certified intrinsically safe and power output is adjusted in accordance with safety requirements.	Functional: • How to inspect shipboard electric transmission equipment for safety certification. Specific: • Knowledge of type and location of equipment onboard ship capable of producing sparks. • Knowledge of check list.

TASK CODE:	III.C.16

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	65	2	25	1A	10	3	3	2	3

TASK CODE: III.C.16	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Inspects ship and shoreside conditions prior to cargo transfer.

TASK: Inspects positioning of emergency towing wires according to checklist and obtains information from appropriate personnel of the condition of ship's boiler, main engines, steering machinery, and other equipment essential for maneuvering, in order to ensure that the ship can move away from berth quickly in the event of an emergency.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection and obtains information in a thorough, accurate manner. • Communicates with appropriate, knowledgeable personnel. Numerical: • Inspects all emergency towing wires for correct positioning. • Obtains all pertinent information regarding ship's present maneuvering capabilities.	Functional: • How to inspect emergency towing wires. • Knowledge of departmental personnel responsibilities and assignments and lines of communication among personnel onboard ship. Specific: • Knowledge of type and location of emergency towing wires on particular ship. • Knowledge of personnel to contact for ship equipment capability information. • Knowledge of check list.

TASK CODE: III.C.17									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	90	1A	5	1A	5	5	4	3	4

TASK CODE: III.C.17	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:
Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Inspects and evaluates location of shoreside facilities, maintenance of vessel mobility, provisions for fire protection, state or change of winds, tides, seas, weather conditions, forces of nature and other circumstances generally beyond human control, according to check list, using own judgment, experience and knowledge, in order to ensure safe conditions prior to transfer of cargo between vessel and shore.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Completes inspection in a thorough and accurate manner. • Considers both safety and environmental conditions having an effect on cargo transfer operations. <u>Numerical</u>: • Judgment is good in X% of the cases.	<u>Functional</u>: • General knowledge of tanker safety practices (e.g., International Oil Tanker and Safety Guide). • How to evaluate unsafe conditions having an effect on cargo transfer operations. • General knowledge of shoreside facilities, vessel mobility at dockside, fire protection equipment, the effect of atmospheric and sea conditions on vessel. <u>Specific</u>: • Knowledge of check list.

TASK CODE:	III.C.18

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	80	1	5	1	15	4	4	3	4

TASK CODE: III.C.18	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Inspect ship and shoreside conditions prior to cargo transfer.

TASK: Examines and evaluates data concerning vessel and shoreside inspections prior to cargo transfer operations using knowledge of standard operating procedure and own judgment in order to determine if conditions are appropriate and safe for commencement of cargo transfer operations.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Good judgment is used in discretionary areas. • Evaluates and examines information thoroughly and accurately. • Shows awareness of potential hazards associated with improper, inadequate inspection. Numerical: • Examines and evaluates all available data.	Functional: • General knowledge of the preparations/inspections necessary for safe, efficient cargo transfer operations. • How to identify and evaluate factors leading to unsafe conditions for cargo transfer operations. • General knowledge of variations in preparations and inspections as a function of cargo type. Specific: • Knowledge of chemical characteristics and hazardous properties of the various cargoes being transferred. • Knowledge of unique or unusual vessel, shoreside or environmental characteristics or conditions having an effect on the commencement of cargo transfer operations. • Knowledge of specific standard operating procedure.

TASK CODE:	III.D.1

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	50	5	40	1	10	4	4	3	4

TASK CODE: III.D.1	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Directs personnel in the initiation and conduct of cargo transfer operations, following standard operating procedure, using designated onboard communications equipment or face-to-face contact when necessary, and using own knowledge of transfer operations and personal judgment in order to transfer cargo safely.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Transfer operations are conducted efficiently, safely and according to standard operating procedure. • Uses good judgment in discretionary areas. • Maintains effective communication with personnel. <u>Numerical</u>: • Fewer than X complaints that communication is ineffective. • Cargo tanks are not overloaded. • A significant amount of liquid is not released to to the environment in <u>all</u> cases of transfer.	<u>Functional</u>: • How to understand, interpret standard operating procedures, manuals, relevant to cargo transfer operations. • General knowledge of the hazards and problems commonly associated with liquid chemical cargo transfer operations. • How to supervise and communicate with shipboard personnel. <u>Specific</u>: • Knowledge of specific standard operating procedures relevant to operations. • Knowledge of properties and hazards of particular cargo being transferred. • Knowledge of cargo transfer equipment and procedures specific to ship or terminal.

TASK CODE: III.D.2

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	40	2	45	2A	15	3	3	2	4

TASK CODE: III.D.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Communicates via walkie-talkie or in person with terminal authorities concerning his readiness to commence transfer operations after completing inspections required prior to cargo transfer, in order to outline general procedures and agree to designated communications and signalling procedures under normal and emergency conditions.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Communicates clearly and concisely and fully understands received communications. **Numerical:** • Communicates all pertinent information relating to cargo transfer procedures and readiness to commence operations. • Understands all data received from terminal authorities.	**Functional:** • How to use portable communications equipment. • How to use and understand terminology related to the transfer of chemical bulk cargo. • How to judge the readiness of ship equipment and crew for the commencement of cargo operations. **Specific:** • Knowledge of type and location of communications equipment onboard ship. • Knowledge of intended cargo transfer operations. • Knowledge of required inspection and preparations prior to transfer of cargo.

TASK CODE: III.D.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	2	45	1A	5	3	3	1	4

TASK CODE: III.D.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Writes/fills out standard form in duplicate, entitled "Declaration of Inspection prior to Bulk Cargo Transfer," following standard operating procedure; delivers copy to terminal superintendent in order to inform terminal representative of the vessel's condition before transfer of flammable and combustible chemical liquid cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Form is complete and accurate. • Duplicate copy of form is delivered to terminal representative. Numerical: • Fewer than X% complaints that form is incomplete, inaccurate or not delivered to appropriate terminal representative.	Functional: • How to fill out standard form. Specific: • Knowledge of specific Declaration of Inspection form and standard operating procedure for requiring completion.

TASK CODE: III.D.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2B	45	3	3	3	4

TASK CODE: III.D.4	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Start and conduct cargo transfer operations.

TASK: Operates and controls cargo valves manually or using control panel pushbuttons, observes cargo connections and hose for leakage, and operating pressure gage on cargo system, complying with specific cargo loading limitations noted on vessel's certificate of inspection, and following standard operating procedure, using own judgment and knowledge, in order to transfer cargo without leakage to environment.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Starts transfer slowly. • Controls chemical liquid cargo transfer carefully and correctly. Numerical: • No significant amount of chemical liquid is released to the environment in all cases of transfer. • No overload of individual tanks occurs.	Functional: • General knowledge of operating principles of cargo pump, cargo valves, pressure indicators, ullage indicators, etc. • How to operate controls on a control panel. • How to read gages (decimal indications). • How to read and follow standard operating procedures. Specific: • Knowledge of standard operating procedures and loading limitation on vessel's certificate of inspection. • Knowledge of specific liquid chemical cargo pumping characteristics and hazards. • Knowledge of specific cargo pump operation, cargo valves, cargo pipe connections, pressure indicators, ullage indicators, etc.

TASK CODE: III.D.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1A	5	3	3	3	3

TASK CODE: III.D.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Inspects visually cargo pumps and pump rooms during cargo transfer operation, according to check list, checks pump's operating temperature and pressure, checks valves and pump glands using own knowledge and judgment, in order to guard against excessive bilge accumulation of cargo which may leak from valves and pump glands.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough manner Numerical: • All specified items are inspected.	Functional: • How to inspect operating machinery and room ventilation. • How to detect unsafe conditions. • How to read temperature and pressure gages. Specific: • Knowledge of pump machinery. • Knowledge of pump room.

TASK CODE: III.D.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	60	1A	5	2A	35	4	4	3	4

TASK CODE: III.D.6	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Examines and evaluates data concerning toxic vapor content of air in pump room, carries and uses portable gas indicator and reads gages, manipulates switches and controls provided with equipment, following standard operating procedure and manufacturer's instructions in order to test toxicity of air prior to personnel entry and inspection of the pump room during the transfer of a specific chemical cargo (e.g., chemical cargo that is a health hazard).

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Examines and evaluates data thoroughly and accurately. • Good judgment is used in discretionary areas. • Manipulates equipment correctly. • Completes tests accurately and thoroughly. • Completes tests when required. Numerical: • In all cases, no personnel are exposed to toxic vapors.	Functional: • How to evaluate data relating to toxicity. • How to operate gas indicator equipment. • How to read dials and gages (decimal readings). • How to read and follow manufacturer's instructions. Specific: • Knowledge of standard operating procedures and manufacturer's instructions. • Knowledge of toxic vapor threshold limit values. • Knowledge of hazardous properties of specific chemical cargo (i.e., health hazards).

TASK CODE: III.D.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	40	1A	10	2B	50	3	3	3	4

TASK CODE: III.D.7	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Start and conduct cargo transfer operations.

TASK: Operates controls to cargo transfer subsystem (push buttons, switches on cargo control panel), discontinuing cargo transfer during severe electrical storms or fire on wharf, tanker, or vicinity, following emergency operating procedure, using own judgment and knowledge in order to stop chemical liquid cargo transfer during unsafe conditions.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Controls liquid cargo transfer in an alert manner. • Responds immediately and positively in emergency situations. Numerical: • Takes instantaneous action to stop cargo transfer in all situations involving severe electrical storms and fire on wharf, tanker, or vicinity.	Functional: • How to operate cargo transfer controls on cargo control panel. • How to positively respond in emergency situations. • General knowledge of operating principles of cargo transfer subsystem. Specific: • Knowledge of emergency operating procedures that require discontinuance of transfer operations under unsafe conditions (electrical storms or fire on wharf, tanker, or vicinity). • Knowledge of specific cargo transfer subsystem (cargo tanks, cargo vents, cargo hose, cargo pumps, etc.).

TASK CODE: III.D.8									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	85	1A	5	1A	10	4	4	3	4

TASK CODE: III.D.8	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:
Start and conduct cargo transfer operations.

TASK: Collects data about cargo transfer, enters data in vessel's logs, checks accuracy in conformity to norms of data, following standard operating procedure and using own judgment and knowledge in order to record accurate cargo data.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Log book entries are brief, complete and accurate. • Records entries with reasonable speed. • Evaluations are perceptive, accurate and thorough. Numerical: • No more than X errors or omissions of important information in all entries.	Functional: • How to gather information from several sources. • How to record information and data in log book (some data in decimals). • How to check accuracy of cargo transfer data. Specific: • Knowledge of physical and chemical properties of specific chemical cargo. • Knowledge of standard operating procedures. • Knowledge of cargo logs and data entries such as: cargo tank gaging before and after loading and discharging, starting and termination times of cargo transfer, cargo temperature, draft and load line marks.

TASK CODE: III.E.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	50	5	40	1	5	4	4	3	4

TASK CODE: III.E.1	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:
Ballast the tankship.

TASK: Directs personnel in the performance of ballasting operations, following standard operating procedure, using own judgment and knowledge of ballasting operations and equipment, and using onboard communications equipment when necessary, in order to ensure ballasting operations are conducted safely.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Directs personnel effectively, correctly, and safely. • Ballasting operations are completed safely and correctly. • Uses good judgment in discretionary areas. • Maintains effective communication with personnel. Numerical: • Fewer than X% complaints that communication is ineffective.	Functional: • Understanding of the procedures involved in ballasting operations. • How to interpret standard operating procedures relevant to ballasting operations. • General knowledge of the hazards and problems commonly associated with ballasting operations. • How to supervise and communicate with shipboard personnel. Specific: • Knowledge of specific standard operating procedures relevant to ballasting operations. • Knowledge of ballast procedures and equipment specific to vessel.

TASK CODE:	III.E.2								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3A	40	2	45	2A	15	3	3	2	4

TASK CODE: III.E.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Ballast the tankship.

TASK: Communicates with terminal authorities via walkie-talkie or in person in order to advise authorities of scope and duration of ballasting operations, to obtain permission to commence operations, and to receive information on terminal procedures relevant to ballasting vessel.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Communicates clearly and concisely, and fully understands received information. Numerical: • Communicates all pertinent information relating to scope, duration and commencement of ballasting procedures. • Understands all data received from terminal authorities.	Functional: • How to use portable communications equipment. • How to use and understand terminology related to ballasting operations. • Understands the procedures involved in ballasting a vessel. Specific: • Knowledge of ballasting sequence and procedures for a particular ship. • Knowledge of type and location of communications equipment on vessel.

TASK CODE: III.E.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3A	85	1A	5	1A	10	4	4	4	4

TASK CODE: III.E.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Ballast the tankship.

TASK: Calculates the ballasting sequence according to specified procedures in the vessel's Loading Manual and Trim Stability Booklet in order to maintain a constant draft.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Properly plans ballasting sequence such that a constant draft is maintained. • Safely sequences ballasting operations to minimize hull stress by specifying proper filling rate and proper sequence. Numerical: • In all cases, a constant draft is maintained during ballasting without exceeding the vessel's stress numeral.	Functional: • How to determine sequencing and regulation of ballast operation. • How to calcuate vessel's stresses (may require algebraic or geometric procedures). Specific: • Knowledge of vessel's ballast system. • Knowledge of vessel's Trim and Stability Book and Loading Manual.

TASK CODE: III.E.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	25	1A	5	2B	70	2	2	2	3

TASK CODE: III.E.4	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE:

Ballast the tankship.

TASK: Line-up (open and close valves) and start pump to provide pressure to ballast system following standard operating procedure, in order to take on ballast water following a predetermined sequence.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completely and correctly opens and closes necessary valves between ballast tanks and the sea chest. • Properly operates the salt water ballast pump. Numerical: • All valves within the ballast system are opened and closed in the correct sequence. • In all cases, ballast tanks are not overfilled.	Functional: • How to operate components of ballast system. • How to start pumps. • How to ascertain ballast pump pressure. Specific: • Knowledge of vessel's ballast system. • Knowledge of vessel's procedure for operating the ballast system.

TASK CODE: III.E.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	90	1A	5	1	5	4	4	3	4

TASK CODE: III.E.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Ballast the tankship.	
TASK: Inspects visually pumps and pump rooms during ballasting operations, using own knowledge of equipment (e.g., pumps, valves, lines, venting system), or equipment manuals when necessary, in order to ensure that ballasting operations are proceeding safely and efficiently.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes inspection in a thorough manner. Numerical: • Inspects all major equipment used in ballasting operations.	Functional: • How to inspect pumps and pump room equipment, including lines, venting system. • How to detect malfunctioning pump room equipment or unsafe conditions. • Understanding of ballasting operations. Specific: • Knowledge of pumps, pump room equipment on tankship.

TASK CODE: III.F.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	50	5	40	1A	10	4	4	3	4

TASK CODE: III.F.1	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Terminate cargo transfer operations.

TASK: Directs personnel in the termination of cargo transfer operations, following standard operating procedure, using onboard communications equipment or face-to-face contact when necessary, and using own knowledge of cargo transfer operations and personal judgment when directing operations such as "topping off" cargo and in order to ensure that termination of cargo transfer is performed correctly and safely.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Directs personnel effectively, correctly and safely. • Transfer operations are terminated safely, and according to standard operating procedures. • Uses good judgment in discretionary areas. • Maintains effective communication with personnel. Numerical: • Fewer than X% complaints that communication is ineffective.	Functional: • General knowledge of cargo transfer operations and subsystems used in termination procedures. • General knowledge of the hazards and problems commonly associated with chemical liquid cargo transfer operations. • How to supervise and communicate with shipboard personnel. Specific: • Knowledge of specific standard operating procedures relevant to operations. • Knowledge of properties and hazards of particular chemical cargo being transferred. • Knowledge of cargo transfer equipment and procedures specific to ship or terminal.

TASK CODE: III.F.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	40	2	25	2B	35	3	3	3	4

TASK CODE: III.F.2	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Terminate cargo transfer operations.

TASK: Operates cargo transfer pump using control panel push buttons, controls cargo tank loading rate, leaving a specified percentage of space in tank for expansion of liquid cargo (due to possible temperature increase during voyage) before topping off last tank, gives terminal personnel adequate warning to stand by to shut down, following standard operating procedure, and using own judgment in order to prevent cargo liquid overflow.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Slows rate of transfer as tank is being topped off. • Carefully controls filling of cargo tank. Numerical: • Cargo liquid overflow does not occur in all cases of cargo transfer.	Functional: • General knowledge of operating principles of cargo pump, valves, etc. • How to operate cargo transfer controls. • How to read dials, recording equipment. Specific: • How to regulate liquid cargo loading rate using specific controls. • Knowledge of specific cargo pump operation, specific cargo tank capacity. • Knowledge of specific cargo properties and characteristics (i.e., volumetric coefficient of expansion). • Knowledge of specific standard operating procedures.

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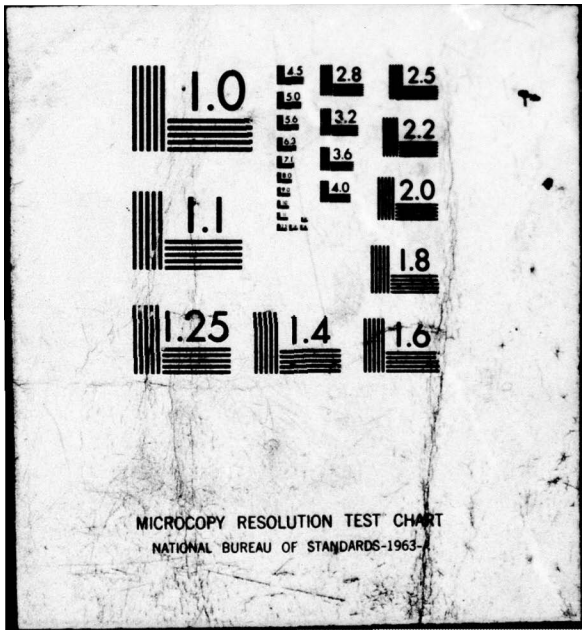
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TASK CODE: III.F.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2B	45	3	3	3	4

TASK CODE: III.F.3	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Terminate cargo transfer operation.	
TASK: Operates controls to cargo transfer pump (push button switch on control panel and cargo valves), following prescribed shutting down procedures in order to stop transfer operations carefully without rupturing cargo hose due to overpressure.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Controls termination of cargo transfer operation carefully. Numerical: • Cargo hose rupture does not occur in all cargo transfer shut downs.	Functional: • How to operate transfer controls (control panel switches and cargo valves). • How to read dials (with decimal scale). • General knowledge of cargo pump operation, piping arrangement, cargo valves, etc. Specific: • Knowledge of specific pump shut down switches. • Knowledge of standard operating procedures and manufacturer's recommended working pressure for specific cargo hose.

TASK CODE: III.F.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2B	45	3	3	3	4

TASK CODE: III.F.4	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Terminate cargo transfer operation.

TASK: Operates water cargo pad subsystem controls (control panel pushbuttons and switches) following standard operating procedure, observes cargo tank loading dial, using own judgment and experience, in order to fill the space above a specific chemical cargo with the correct amount of water padding.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Controls water cargo pad subsystem carefully and correctly. Numerical: • In all cases of a specific chemical cargo transfer, the correct amount of water padding is supplied to the space above the liquid in the cargo tank.	Functional: • How to operate controls to a water cargo pad subsystem. • How to read dials (with decimal scale). • How to read and follow prescribed procedures. Specific: • How to operate push buttons and switches on specific control panel. • Knowledge of water cargo pad subsystem (pumps, pipes, valves, cargo tanks, etc.). • Knowledge of chemical cargo requiring water pad and hazards (e.g., carbon disulfide's low auto-ignition temperature). • Knowledge of specific standard operating procedures.

TASK CODE: III.F.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1	5	2B	45	3	3	3	4

TASK CODE: III.F.5	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Terminate cargo transfer operations.

TASK: Operates inert gas cargo pad subsystem controls (control panel pushbuttons and switches) following standard operating procedure, observes vapor space analyzer dial, in order to fill space above a specific chemical cargo with the correct gas mixture.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Controls inert gas cargo pad subsystem carefully and correctly. <u>Numerical</u>: • In <u>all</u> cases of a specific chemical cargo transfer, the correct gas mixture padding is supplied to the vapor space above the liquid in the cargo tank.	<u>Functional</u>: • How to operate controls to an inert gas cargo pad subsystem. • How to read dials (with decimal scale). • How to read and follow prescribed procedures. <u>Specific</u>: • Knowledge of inert gas cargo pad subsystem (inert gas generator, pipes, pumps, etc.). • Knowledge of specific chemical cargo's hazards (e.g., flammability, reactivity, toxicity, etc.). • Knowledge of specific standard operating procedures.

TASK CODE: III.F.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2B	45	3	3	3	4

TASK CODE: III.F.6	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.

OBJECTIVE: Terminate cargo transfer operations.

TASK: Operates controls to cargo displacement inert gas subsystem, following standard operating procedure, using valve controls (push buttons on control panel) and own judgment and knowledge in order to purge chemical liquid cargo from cargo hose and vapors from vent lines prior to disconnecting cargo hose and vapor lines between vessel and shore.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Supplies inert gas to cargo and vapor lines properly. • Removes cargo liquid and vapor from pipe lines in a thorough manner. Numerical: • In all cases, liquid and vapor are removed from lines prior to disconnecting shore ties upon completion of cargo transfer.	Functional: • How to control inert gas subsystem. • How to read dials (with decimal scale). • How to operate control panel switches. Specific: • Knowledge of standard operating procedures. • Knowledge of vessel's inert gas subsystem. • Knowledge of vessel's cargo control panel. • Knowledge of specific chemical cargo's hazards (e.g., reactivity, toxicity, etc.). • Knowledge of vessel's cargo piping, vapor, pipe lines, cargo valves, vapor relief valves, etc.

TASK CODE: III.F.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	35	1A	5	1A	60	3	3	2	4

TASK CODE: III.F.7	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Terminate cargo transfer operation.	
TASK: Operates controls to cargo hose handling equipment (winches, ship's tackle, etc.), following standard operating procedure, in order to drain cargo hose.	

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Positions cargo hose properly. <u>Numerical</u>: • In <u>all</u> cases residual liquid cargo is drained properly.	<u>Functional</u>: • General knowledge of operating principles of vessel's winches, ship's tackle, etc. • How to operate ship's cargo hose handling equipment. • How to position hose for drainage. <u>Specific</u>: • Knowledge of specific cargo hose handling equipment (windlass, ship's tackles, etc.), cargo tanks, shore pipe lines and drainage system. • Knowledge of standard operating procedures.

TASK CODE:	III.F.8								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	20	1A	5	2A	75	2	2	3	3

TASK CODE: III.F.8	GOAL: Conduct hazardous chemical liquid bulk cargo transfer operations safely.
OBJECTIVE: Terminate cargo transfer operations and record data.	
TASK: Disconnects flanged joint between cargo hose and pipeline manifold and between vessel's vent piping and shore vapor return line, following standard operating procedure, using available tools (wrenches, etc.), equipment and lifting gear, such as ship's tackle, wears protective clothing when required, following standard operating procedure, in order to uncouple cargo transfer system between vessel and shore.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Equipment is properly disconnected. • Arrangements completed thoroughly, according to procedures. Numerical: • In all cases where specific chemical cargo is hazardous to health, wears protective clothing and takes adequate safety precautions.	Functional: • How to read and follow procedures for disconnecting equipment. • How to handle equipment and tools while wearing personal protection equipment. Specific: • Knowledge of procedures for disconnecting cargo hose and vapor return subsystem. • Knowledge of cargo lines and vapor return lines. • Knowledge of use of personal protection clothing (i.e., when chemical cargo is corrosive or has other health hazards). • Knowledge of hazardous properties of specific chemical cargo.

TASK CODE:	IV.A.1

WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2B	45	3	4	3	4

TASK CODE: IV.A.1	GOAL: *Control hazardous chemical liquid bulk cargo condition during tankship's transit.*

OBJECTIVE: Maintain cargo conditions.

TASK: Operates cargo cooling/heating subsystem controls (push buttons and switches), observes cargo temperature dials, corrects out-of-limits situation, following standard operating procedure, using own judgment and knowledge in order to maintain a specific chemical cargo temperature below a specified limit.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Controls cargo cooling/heating subsystem carefully and accurately. <u>Numerical</u>: • The temperature of a specific chemical cargo is maintained within specified limits at all times during tankship transit. • In <u>all</u> cases of cargo overheating or overcooling, correct, immediate action is taken to return cargo temperature to normal condition.	<u>Functional</u>: • How to operate cargo cooling/heating subsystem controls on a control panel under both normal and out-of-limits conditions. • How to read dials and gages (readings in decimals). • How to read and follow prescribed procedures. <u>Specific</u>: • Knowledge of cargo cooling/heating system. • Knowledge of specific chemical cargo's physical and chemical properties and hazards (e.g., reactivity, polymerization rate as a function of temperature, chemical liquid's vapor pressure vs. temperature relationship, etc.). • Knowledge of standard operating procedures and specific chemical cargo's temperature limits.

TASK CODE: IV.A.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	50	1A	5	2A	45	3	4	3	4

TASK CODE: IV.A.2	GOAL: Control hazardous chemical liquid bulk cargo condition during tankship's transit.

OBJECTIVE: Maintain cargo conditions.

TASK: Measures/checks chemical stabilizer/inhibitor additive concentration in a specific chemical cargo at periodic intervals, following standard operating procedure, referring to manufacturer's specification, using available cargo sampling and test equipment in order to determine whether additive has deteriorated and whether more is needed to prevent decomposition/polymerization of a specific chemical cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Completes tests accurately and thoroughly. • Completes tests when required. Numerical: • Zero complaints on accuracy of tests.	Functional: • How to measure chemical stabilizer/inhibitor concentration using sampling and test equipment. • How to determine if stabilizer/inhibitor has deteriorated. • How to read and follow manufacturer's instructions. Specific: • Knowledge of prescribed procedures. • Knowledge of specific chemical cargoes requiring stabilizer/inhibitor. • Knowledge of specific sampling and test equipment.

TASK CODE: IV.A.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	2B	35	3	3	3	4

TASK CODE: IV.A.3	GOAL: Control hazardous chemical liquid bulk cargo condition during tankship's transit.
OBJECTIVE: Maintain cargo conditions.	
TASK: Operates and controls pump (starts, stops, controls speed) which circulates a stabilizer/inhibitor additive into a specific chemical cargo, uses push button controls on control panel, observes operating pressures and flow rate, refers to standard operating procedure and manufacturer's certificate which specifies action to be taken should length of voyage exceed the lifetime of the additive in order to maintain stability of a specific chemical cargo during vessel transit (i.e., prevent hazardous decomposition).	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Operates and controls pump correctly. • Correct amounts of stabilizer/inhibitor are properly circulated into cargo. Numerical: • In all cases where length of voyage exceeds lifetime of stabilizer/inhibitor, proper amount of additive is circulated in cargo.	Functional: • How to operate pump controls. • General knowledge of pump operating principles. • How to read and follow manufacturer's instructions. Specific: • Knowledge of specific pumps, valves, pipelines used to circulate chemical additives. • Knowledge of specific chemical cargoes that require stabilization/inhibition. • Knowledge of correct stabilizer/inhibitor required for a specific chemical cargo. • Knowledge of inhibitor/stabilizer manufacturer's certificate. • Knowledge of specific standard operating procedures.

TASK CODE: IV.A.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	2B	35	3	4	3	4

TASK CODE: IV.A.4	GOAL: Control hazardous chemical liquid bulk cargo condition during tankship's transit.
OBJECTIVE: Maintain cargo conditions.	
TASK: Operates/controls inert gas cargo pad subsystem using control panel push buttons and switches, following standard operating procedure, observes vapor loading and analyzer dials, supplies a sufficient amount of inert gas, controls supply rate to minimize creation of static electricity, using own judgment and knowledge in order to maintain a small amount of positive pressure above a specific chemical cargo to compensate for normal losses.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Controls inert gas cargo padding carefully and correctly. Numerical: • A sufficient amount of inert gas is added to cargo ullage spaces to compensate for normal losses when they occur. • In all cases, supply rate is controlled within prescribed limits to minimize creation of static electricity.	Functional: • How to operate controls to an inert gas cargo pad subsystem. • General knowledge of operating principles of inert gas cargo pad subsystem. • How to read dials. • How to read and follow standard operating procedures. Specific: • How to operate push buttons and switches on a specific control panel. • Knowledge of specific inert gas subsystem (inert gas generator, pipes, pumps, etc.). • Knowledge of prescribed procedures. • Knowledge of basic principles of static electricity. • Knowledge of specific chemical cargo's properties and hazards (e.g., autoignition temperature, flammability, etc.).

TASK CODE: IV.A.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	60	1A	5	2B	35	3	3	3	4

TASK CODE: IV.A.5	GOAL: Control hazardous chemical liquid bulk cargo condition during tankship's transit.

OBJECTIVE: Maintain cargo conditions.

TASK: Operates/controls inert gas subsystem using push buttons on control panel, following standard operating procedure, observes vapor space analyzer dial, using own judgment and knowledge in order to maintain an inert atmosphere in void spaces around cargo tanks containing a specific chemical cargo.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Operates inert gas subsystem carefully and correctly. Numerical: • An inert atmosphere is maintained around cargo tanks during vessel transit in all cases of shipping a specific chemical cargo.	Functional: • How to operate controls to an inert gas subsystem. • General knowledge of operating principles of inert gas subsystem. • How to read dials. • How to read and follow standard operating procedures. Specific: • How to operate push buttons and switches on a specific control panel. • Knowledge of specific inert gas subsystem (inert gas generator, pipes, pumps, etc.). • Knowledge of specific chemical cargo's hazards (e.g., autoignition temperature, wide explosive range, toxicity, etc.). • Knowledge of specific standard operating procedures.

TASK CODE:	IV.B.1								
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	85	1A	5	1A	10	4	4	3	4

TASK CODE: IV.B.1	GOAL: Control hazardous chemical liquid bulk cargo condition during tankship's transit.
OBJECTIVE: Update cargo log.	
TASK: Evaluates information about cargo condition during voyage on a periodic basis (daily, weekly, etc.), following standard operating procedure, gathers, collects and writes new information in cargo log, such as cargo's stabilizer/inhibitor additive concentration as a function of time since cargo loading, inert gas cargo pad pressure and analysis, inert gas pressure in void spaces, cargo temperature, cargo pressure, and water pad depth, in order to monitor cargo condition during transit and record cargo data.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Records information accurately • Record keeping is done on a periodic basis in a consistent manner. • Evaluations are perceptive, accurate, and thorough. **Numerical:** • No more than X errors or omissions of important information in X% of the entries.	**Functional:** • How to gather information from several sources. • How to record information in a log book. • How to evaluate cargo control data. **Specific:** • Knowledge of format requirements for log book entries. • Knowledge of cargo logs. • Knowledge of standard operating procedures. • Knowledge of allowable variation of cargo containment variables (such as cargo stabilizer/inhibitor concentration, inert gas pressure, water pad depth, cargo temperature, etc.).

TASK CODE: V.A.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	10	3	20	2B	70	4	4	2	4

TASK CODE: V.A.1	GOAL: Protect life and property from cargo accidents.

OBJECTIVE:

Control hazardous chemical spills.

TASK: Operates controls (push buttons) on control panel to close cargo control valves, or manually stops pump(s), closes pipeline and manifold valves, and secures vapor return system, using onboard personnel and shoreside personnel in the event remote controls are inoperative, following emergency procedures in order to stop cargo transfer operations.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Promptly secures cargo operations upon learning of spill. • Correctly and expeditiously operates remote valve controls. • Concisely and clearly directs personnel. • Clears liquid and vapor from lines after shut down. Numerical: • In all cases, the valves are promptly and completely closed, using either local or remote controls.	Functional: • Understanding of the principles, operations and components of chemical liquid cargo handling system, such as pumps, valves, piping, and cargo handling instrumentation. • How to close cargo control valves using remote controls in cargo control room or local controls at location of valve. • How to direct personnel to assist in securing cargo handling operations. Specific: • Knowledge of vessel's cargo handling system. • Knowledge of vessel's procedures for securing chemical liquid cargo operations.

TASK CODE: V.A..2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	20	2	40	1C	40	2	2	1	2

TASK CODE: V.A. 2	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Control hazardous chemical spill.	
TASK: Speaks on telephone or public address communication system following standard operating procedure, in order to notify onboard and shoreside personnel of the spill and potential hazard.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Communication is prompt and effective. • Ensures proper use of communication system discipline procedures. Numerical: • Notifies all appropriate personnel as soon as possible after discovery of spills.	Functional: • How to use telephone and public address communication system. Specific: • Knowledge of vessel's communications system and procedures.

TASK CODE: V.A. 3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	80	2	10	1A	10	5	4	3	4

TASK CODE: V.A. 3	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Control hazardous chemical spill.	
TASK: Evaluates type and extent of spill and capabilities of onboard personnel and equipment, using own knowledge of properties and hazards of cargo, layout and structure of cargo containment system, available personnel and equipment, weather conditions, procedures specified in ship operations manual, and advice from other personnel, when necessary, in order to determine source and best method to control and contain spill.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Analyzes accurately the capabilities of onboard personnel and equipment. • Evaluation of various spill control and containment alternatives is thorough. • Determines correctly the source of the leak. Numerical: • In all cases, determines the best method to control and contain spill.	Functional: • How to control and contain hazardous chemical spills. • How to evaluate the spill control and containment capabilities of onboard personnel and equipment. • How to determine the source of a hazardous chemical cargo spill. Specific: • Knowledge of vessel's spill control and containment personnel and equipment. • Knowledge of vessel's procedure for controlling and containing hazardous cargo spills.

TASK CODE: V.A.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	65	1A	10	5	4	3	4

TASK CODE: V.A.4	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Control hazardous chemical spill.	
TASK: Directs personnel in the preparation and positioning of fire extinguishing hoses in order to prepare for possible fire resulting from chemical spill.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Fire fighting hoses are prepared and positioned correctly and promptly. • Direction of personnel is clear and unambiguous. Numerical: • All necessary and appropriate equipment is assembled.	Functional: • How to direct personnel in the preparation and positioning of fire fighting hoses to control and contain chemical liquid spills. Specific: • Knowledge of vessel's fire fighting equipment. • Knowledge of vessel's procedures for making ready and positioning fire fighting hoses.

TASK CODE: V.A.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	65	1A	10	5	4	3	4

TASK CODE: V.A.5	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Control hazardous chemical spill.	
TASK: Directs personnel in clean-up of area in the vicinity of cargo spill and the "knocking down" of hazardous chemical vapor with water, using onboard communications equipment, when necessary, and following standard operating procedure in vessel's operations manual, using judgment in minimizing the personnel hazard and potential of fire in order to flush chemical cargo spill area.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Area is promptly flushed with water from firemain system. • Exercises extreme care while flushing the spilled cargo. Numerical: • In all cases, the flushing operation does not cause hazardous cargo exposure to personnel. • In all cases, flusing with water is not permitted where chemical cargo is water reactive.	Functional: • How to direct personnel in emergency situation to flush any non-contained spilled cargo. • How to operate marine firemain systems. • How water affects vaporization rates and ignition probabilities of various hazardous chemical spills. Specific: • Knowledge of vessel's general arrangement and firemain system. • Knowledge of vessel's procedure for flushing spilled cargo.

TASK CODE: V.A.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	65	1	10	5	4	3	4

TASK CODE: V.A.6	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Control hazardous chemical spill.	
TASK: Directs personnel in the disconnection of cargo lines and vapor return lines between shoreside and vessel, following standard operating procedure in vessel's operations manual in order to prepare for getting vessel away from terminal.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Lines are disconnected promptly and carefully in view of the dangerous situation. • Directs personnel clearly and effectively. • Cargo and vapor return lines are free of cargo and vapor prior to commencing the disconnect procedure. **Numerical:** • All cargo lines and vapor return lines are disconnected.	**Functional:** • How to disconnect cargo and vapor return lines from shoreside. • How to direct personnel to disconnect cargo lines. **Specific:** • Knowledge of the vessel's cargo transfer system. • Knowledge of the vessel's procedures for disconnecting cargo lines and vapor return lines.

TASK CODE: V.A.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	65	4A	25	1A	10	5	5	4	4

TASK CODE: V.A.7	GOAL: Protect life and property from cargo accidents.

OBJECTIVE: Control hazardous chemical spill.

TASK: Inspects and examines area in vicinity of hazardous chemical spill, consulting with engineering personnel as needed, following standard procedure, in order to determine the extent of structural damage.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Accurately determines the extent of structural damage to the vessel's hull. • Effectively consults with the appropriate engineering personnel to evaluate extent of structural damage to vessel's hull and how to facilitate repairs. **Numerical:** • In all cases, procedures are followed.	**Functional:** • How to determine the structural adequacy of a vessel after the vessel's hull has sustained damage. • Understands the principles of ship structures. • Understands procedures on damage to tank ships. **Specific:** • Knowledge of vessel's structural design, capabilities, and limitations. • Knowledge of the vessel's procedure for determining the extent of structural damage.

TASK CODE: V.B.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3B	10	3	20	2B	70	4	4	3	4

TASK CODE: V.B.1	GOAL: Protect life and property from cargo accidents.

OBJECTIVE: Initiate fire fighting onboard tankship.

TASK: Operates controls (push buttons) on control panel to close cargo control valves, or manually stops pump(s), closes pipeline and manifold valves, and secures vapor return system, gets assistance from onboard personnel and/or shoreside personnel, as necessary, following emergency procedures, in order to stop cargo transfer operations when learning of fire aboard tankship.

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Promptly secures all cargo operations upon learning of outbreak of fire. • Correctly and expeditiously operates the remote valve controls. • Expeditiously closes the cargo control valves, using the local controls where appropriate, or when the remote valve controls are inoperable. • Concisely and clearly directs personnel. <u>Numerical</u>: • In <u>all</u> cases, the valves are to be promptly and completely closed, using either local or remote controls.	<u>Functional</u>: • Understanding of the principles, operations, and components of chemical liquid cargo handling system, such as pumps, valves, piping, and cargo handling instrumentation. • How to close cargo control valves using remote controls in cargo control room or local controls at location of valve. • How to get personnel to assist in securing cargo handling operations. <u>Specific</u>: • Knowledge of vessel's cargo handling system. • Knowledge of vessel's procedures for securing hazardous chemical cargo operations.

TASK CODE: V.B.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	20	2	40	1A	40	2	2	2	3

TASK CODE: V.B.2	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Initiate fire fighting onboard tankship.	
TASK: Speaks to personnel on telephone and/or public address communication system, manipulates switches, rotary dials, and push buttons, following standard operating procedure, in order to notify both onboard and shoreside personnel of the fire or potential fire.	

PERFORMANCE STANDARDS	TRAINING CONTENT
<u>Descriptive</u>: • Communication is prompt and effective. • Ensures proper use of communication system procedures. • Is alert to responding to hazardous situation. <u>Numerical</u>: • Notifies <u>all</u> appropriate personnel as soon as possible after discovery of fire.	<u>Functional</u>: • How to use telephone and public address communication systems. <u>Specific</u>: • Knowledge of vessel's communications systems and procedures.

TASK CODE: V.B.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	80	2	10	1A	10	5	4	3	4

TASK CODE: V.B.3	GOAL: Protect life and property from cargo accidents.

OBJECTIVE: Initiate fire fighting onboard tankship.

TASK: Evaluates type and extent of fire and capabilities of fire fighting personnel and equipment, using own knowledge of cargo properties and hazards, weather conditions, and procedures specified in ship operations manual, in order to determine the best method to extinguish and contain fire.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Analyzes accurately the capabilities of fire fighting personnel and equipment. • Evaluates properly the effectiveness of the various fire fighting extinguishing agents for the particular type of fire, and under the particular weather conditions. • Determines expeditiously and correctly the proper fire extinguishing agent and method for the particular chemical cargo under the particular weather condition. **Numerical:** • In all cases, determines the best method to extinguish and contain the fire.	**Functional:** • The effects of various fire extinguishing agents, (i.e., water, foam, dry chemical), and types of combustible materials and chemicals. • How to extinguish and contain fires of standard combustible material and/or hazardous chemicals. • How to evaluate the capabilities and limitations of fire fighting personnel and equipment for various types of fires, under various weather conditions. • How to apply the basic principles of heat transfer and smothering techniques in fire fighting. **Specific:** • Knowledge of vessel's fire fighting personnel and equipment. • Knowledge of vessel's procedures for fighting various types of fires under various weather conditions.

TASK CODE: V.B.4									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	10	1A	5	2B	85	2	3	2	3

TASK CODE: V.B.4	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Initiate fire fighting onboard tankship.	
TASK: Opens selected control valves and opens suction and discharge valves to fire pump(s), following emergency procedure in the vessel's operations and safety manual, in order to activate vessel's firemain system.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Expeditiously opens the control valves to effectively pressurize the firemain system. • Promptly and in the correct sequence opens the suction/discharge valves and properly activates fire pump. **Numerical:** • In all cases, ensures fire pump is started in sufficient time to protect the vessel.	**Functional:** • How to operate fire pump(s) using the control panel controls. • Understanding of the principles, operations, and components of the fire main system. **Specific:** • Knowledge of the vessel's firemain system. • Knowledge of the vessel's procedure for operating the fire main system.

TASK CODE: V.B.5									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	65	1	10	5	4	3	4

TASK CODE: V.B.5	GOAL: Protect life and property from cargo accidents.

OBJECTIVE:

Initiate fire fighting onboard tankship.

TASK: Directs personnel in laying out of fire fighting hoses and the selection/operation/positioning of hoses, fire extinguishers, and other fire fighting equipment, using onboard communications equipment, if necessary, following standard operating procedure in operations safety manual, and using knowledge and judgment of fire emergency situations in order to contain and extinguish fire.

PERFORMANCE STANDARDS	*TRAINING CONTENT*
Descriptive: • Fire hoses are promptly and properly laid out. • Personnel and equipment are prepared expeditiously and effectively to contain and extinguish fire. • Maintains effective communication with fire fighting personnel. Numerical: • In all cases, supervises personnel and equipment in such a manner that fire is contained and extinguished. • In all cases, contains and extinguishes fire before it causes ignition of cargo tank contents.	Functional: • The effects of extinguishing agents, (i.e., water, foam, dry chemicals), on various types of combustible materials and chemicals. • How to contain and extinguish fires of standard combustible materials and/or of chemical liquids. • How to lay out and operate fire hoses in containing and extinguishing fires. • How to evaluate the capabilities of fire fighting personnel and equipment under various conditions. • How to use ship communications equipment. Specific: • Knowledge of vessel's fire fighting personnel and equipment. • Knowledge of vessel's procedures for fighting fires, including chemical liquid fires.

TASK CODE: V.B.6									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
3	60	25	15	1A	15	3	3	2	3

TASK CODE: V.B.6	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Initiate fire fighting onboard tankship.	
TASK: Inspects ship spaces, using protective clothing and self-contained breathing apparatus when necessary, and using judgment when entering hazardous areas in order to ensure all doors, hatches, vents and other tank apertures are closed and that personnel have vacated hazardous areas.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Doors, hatches, vents, tank apertures, etc., are promptly closed upon learning of outbreak of fire. • Wears protective clothing and self-contained breathing apparatus if necessary. • Ensures personnel are alerted and vacated promptly from hazardous spaces. • Uses good judgment in discretionary situations. Numerical: • All doors, hatches, vents, etc., critical to the containment of fires, are closed. • All personnel are alerted and vacated from hazardous spaces.	Functional: • How to secure vessel and tank doors, hatches, openings, tank apertures, etc. • How to identify and use protective clothing and self-contained breathing apparatus. • How to identify and inspect hazardous spaces onboard ship in the event of fire/potential fire. Specific: • Knowledge of vessel's layout and arrangement of spaces, equipment, enclosures, etc. • Knowledge of type and location of protective clothing and breathing apparatus onboard vessel.

TASK CODE: V.B.7									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	25	5	65	1	10	5	4	3	4

TASK CODE: V.B.7	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Initiate fire fighting onboard tankship.	
TASK: Directs personnel in the disconnection of cargo lines and vapor lines from the shoreside lines between shoreside and vessel, following standard operating procedure in vessel's operations manual, in order to prepare for getting vessel away from terminal.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Lines are disconnected promptly and carefully. • Directs personnel clearly and effectively. • Cargo lines and vapor return lines are free of cargo and vapor prior to commencing the disconnect procedure. Numerical: • All cargo lines and vapor return lines are disconnected.	Functional: • How to disconnect cargo and vapor lines from shoreside. • How to direct personnel to assist in disconnecting lines. Specific: • Knowledge of the vessel's cargo transfer system. • Knowledge of the vessel's procedure for disconnecting cargo lines and vapor return lines.

TASK CODE: V.B.8									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	65	4A	25	1A	10	5	5	4	4

TASK CODE: V.B.8	GOAL: Protect life and property.
OBJECTIVE:	Initiate fire fighting onboard tankship.

TASK: Inspects visually the damage area resulting from fire, consulting with engineering personnel, when necessary, following standard procedure and using own judgment in order to determine the extent of structural damage and recommend methods to minimize the adverse effects of casualty.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Accurately determines the extent of structural damage. • Effectively consults with appropriate engineering personnel to evaluate the extent of structural damage to vessel and how to facilitate repairs. Numerical: • In all cases, standard procedures are followed.	Functional: • How to determine the structural adequacy of a vessel after the vessel's hull has sustained damage. • Understanding of the principles of ship structure. • Understand the standard procedures relating to tank vessel damage. Specific: • Knowledge of vessel's structural design and capabilities. • Knowledge of the vessel's procedure for determining the extent of structural damage.

TASK CODE: V.C.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	20	4C	70	1A	10	3	4	2	4

TASK CODE: V.C.1	GOAL: Protect life and property from cargo accidents.

OBJECTIVE: Administer first aid.

TASK: Provides first aid to victim exposed to chemical liquid cargo, following standard operating procedure, moves victim from accident scene, removes contaminated clothing, washes spill from skin with gentle flow of water, calls for medical attention, readies special medical kit for doctor's use, in order to treat victim.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Provides treatment for victim exposed to a chemical liquid cargo in a careful, expeditious, and proper manner. • Calls for medical attention (doctor's assistance) promptly, when required. Numerical: • Medical attention (doctor's assistance) is called for in all cases where required.	Functional: • General knowledge of procedures for treatment of persons exposed to hazardous chemicals gained by attending simulation drills/training. • How to treat individuals exposed to chemical liquids. • How to obtain medical assistance. • How to read and follow medical instructions. • General knowledge of contents of First Aid Manual, International Medical Guide for Ships, Medical First Aid Guide for use in accidents involving dangerous goods. Specific: • Knowledge of location of special medical kit (containing particular antidotes). • Knowledge of contents of specific medical instructions for treating victims exposed to chemicals (e.g., for individuals exposed to acetone cyanohydrin, acetonitrile, acrylonitrile, and ethylene cyanohydrin breaks amyl nitrate pearl in cloth and holds it under nose of victim, allows victim to inhale vapors at rate specified in instructions).

TASK CODE: V.C.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	20	4C	70	1A	10	3	4	2	4

TASK CODE: V.C.2	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Administer first aid.	
TASK: Provides first aid to unconscious victim by administering mouth-to-mouth resuscitation, following standard operating procedure in first aid manual, and using own judgment as to whether victim should be moved, in order to administer artificial respiration by means of mouth-to-mouth resuscitation.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Exercises good judgment as to whether victim should be moved. • Moves injured person carefully. • Forces air into victim's mouth properly and gently. **Numerical:** • Performs artificial respiration gently and at proper rate in accordance with standard operating procedures.	**Functional:** • General knowledge of artificial respiration procedures gained by attending simulation drills and training. • How to prepare a victim for artificial respiration. • How to administer artificial respiration by mouth-to-mouth resuscitation. • How to read and follow first aid procedures. • General knowledge of contents of First Aid Manual, International Medical Guide for Ships, Medical First Aid Guide for use in Accidents Involving Dangerous Goods. **Specific:** • Knowledge of specific procedures on mouth-to-mouth resuscitation (i.e., moves injured person carefully, removes foreign matter from mouth, pulls victim's head back, extending neck, holds lower jar upward, forces own air into victim's mouth gently and at proper rate).

TASK CODE: V.C.3									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	20	4C	70	1A	10	3	4	2	4

TASK CODE: V.C.3	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Administer first aid.	
TASK: Provides first aid to conscious victim suffering from shock, following standard operating procedure and first aid instructions, moves victim to suitable surroundings away from cause of shock, protects victim by supplying heat, position and stimulants using available first aid equipment, in order to treat conscious victim.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Treats victim for shock in a careful, expeditious and proper manner. Numerical: • In all cases, no attempt is made to make an unconscious person drink. • Stimulants are given in proper quantities and at proper rates in accordance with standard operating procedures.	Functional: • General knowledge of procedures for treatment of shock gained by attending simulation drills and training. • How to treat a victim suffering from shock. • How to read and follow standard operating procedures and first aid instructions. • General knowledge of contents of First Aid Manual, International Medical Guide for Ships, Medical First Aid Guide for Use in Accidents Involving Dangerous Goods. Specific: • Knowledge of how to supply heat, position, and stimulants (i.e., removes wet clothing and drys victim, wraps victim in blankets, applies external heat using hot water bottles, heating pads to various areas (feet, thighs, abdomen), places body so gravity will help blood flow to brain and heart, gives conscious person stimulants (aromatic spirits of ammonia, coffee, tea, hot milk, hot water). • Knowledge of location of vessel's first aid equipment (blankets, hot water bottles, heating pads, stimulants, etc.).
• Knowledge of specific standard and first aid instructions on the treatment of shock.	

TASK CODE: V.D.1									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
2	25	2	70	1A	5	3	4	3	4

TASK CODE: V.D.1	GOAL: Protect life and property from cargo accidents.
OBJECTIVE: Report hazardous chemical cargo accident.	
TASK: Reports verbally by telephone or radio an incident that occurred onboard the vessel as a result of the chemical liquid cargo being transported, following standard operating procedure, in order to immediately notify proper authorities of an accident.	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Information transmitted is accurate and complete. • Verbal transmission is clear and concise. **Numerical:** • In all cases where the incident is a direct result of the hazardous chemical cargo being transported an immediate verbal report is made to proper authorities.	**Functional:** • How to deliver information to proper authorities. **Specific:** • Knowledge of proper authorities. • Knowledge of standard operating procedures. • Knowledge of accident aboard vessel. • Knowledge of hazardous properties of specific chemical cargo.

TASK CODE: V.D.2									
WORKER FUNCTION LEVEL AND ORIENTATION						WORKER INSTRUCTIONS	GENERAL EDUCATIONAL DEVELOPMENT		
DATA	%	PEOPLE	%	THINGS	%		REASONING	MATH	LANGUAGE
4	60	2	35	1A	5	4	4	3	4

TASK CODE: V.D.2	GOAL: Protect life and property from cargo accidents.

OBJECTIVE: Report hazardous chemical cargo accident.

TASK: Investigates (examines, evaluates) accidents, gathers information about an incident aboard vessel which may be a result of the chemical liquid cargo, asks questions of witnesses, listens to and evaluates responses, visually examines scene of accident, writes down relevant data on standard form, following standard operating procedure, in order to prepare written report to proper authorities.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive: • Information is relevant, complete, and accurate. • Analysis is perceptive, accurate, and thorough. Numerical: • Completes and sends report within specified time frame of standard operating procedure. • Less than X% complaints regarding inadequate or insufficient information.	Functional: • How to investigate a chemical cargo accident. • How to identify, classify, and compile specific information from a mass of data. • How to evaluate information in relation to criteria and principles affecting transport of chemical liquid cargo. • How to elicit information from people. Specific: • Knowledge of specific operating procedure. • Knowledge of report forms which require calculations in decimals. • Knowledge of accident location, people involved, hazardous properties of specific chemical cargo. • Knowledge of proper authorities.